

SOAP

SANITARY CHEMICALS

UNIVERSITY AVENUE

MOSCOW

TECHNIQUE PLUS

In creating effective odors for soaps and insecticides, technique is essential. When combined with experience and initiative it becomes a valuable art. Our perfume-chemists possess this desirable combination.

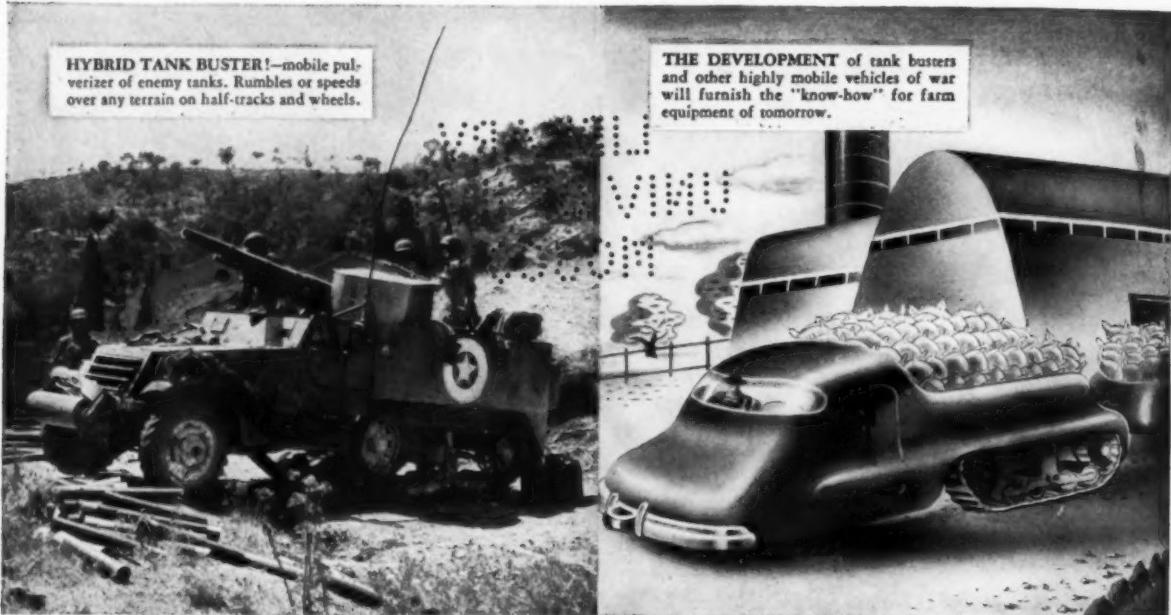
JAN AMERINGEN-HAEBLER INC.
315 FOURTH AVE.

NEW YORK, N. Y.

April 1944

SOLVAY*

...KEYED TO TODAY AND TOMORROW!



Today . . . Solvay Alkalies comprising Soda Ash, Caustic Soda and many other related products are helping to forge the ponderous tanks, carriers and half-tracks. These vital chemicals are indispensable to the metal producing and fabricating industries. Serving industry since 1881, Solvay is America's largest producer of alkalies.

Tomorrow . . . the gigantic task of feeding the world will challenge agriculture. The productive capacity of farms will be immeasurably aided by new developments in farm equipment. Manufacturers of tools and machinery will continue to look to Solvay for their chemical requirements, and for helpful technical service on their chemical problems.

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

* The Solvay Process Company employs limestone and ammonia to make Soda Ash, from which basic material Caustic soda and other alkalies are derived.



**SODA ASH • CAUSTIC SODA
AMMONIUM CHLORIDE • CAUSTIC POTASH
MODIFIED SODAS • AMMONIUM BICARBONATE
SODIUM NITRITE • PARA-DICHLOROBENZENE
CALCIUM CHLORIDE • CHLORINE • SALT
POTASSIUM CARBONATE**

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by
The Solvay Process Company

40 RECTOR STREET NEW YORK 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
New Orleans • New York • Philadelphia • Pittsburgh • St. Louis • Syracuse

702
2444
New

Liquid
Powde

Apr



A cool head and a good bombsight bring down more Zeroes and Messerschmidts. We've got our eye on the problems of doing business today. That's why Fuld jobbers seek our suggestions when they've got some knots to untie. That's why our sanitary chemicals are the same high quality they've always been. Our whole

*Fuld
Brothers*

702 S. Wolfe St., Baltimore 31, Md.
2444 E. 8th St., Los Angeles 21, Calif.
New York Sales Office: 55 W. 42nd St., CHICKering 4-2538

Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

organization is busy helping you meet the present situation. But we're also exercising foresight by planning for the postwar conditions of tomorrow.



All customer and inter-office mail is handled here. Letters are opened, separated and sent to the various offices. This department also sends out advertising matter to our customers.

LEARN TO *Crawl* BEFORE YOU *Walk!*



The first halting steps of a product after its introduction on the market may be likened to the steps of an infant before the product can stride ahead to a market success.

It must feel its way cautiously and carefully. Market trials must be made; shelf-life observed; consumer reaction noted and mistakes corrected.

The manufacturer must first gain consumer acceptance of the product itself. Of equal importance is the attainment of proper shelf-life, assuring the manufacturer that the product will reach the consumer as he intended it to when the product came out of his plant. With these two important qualities, the product is bound to stride through its life surely and successfully.

We can contribute much to consumer appeal and shelf-life with our perfume ingredients.

Aromatics Division
GENERAL DRUG COMPANY

644 PACIFIC STREET, BROOKLYN, N. Y.

9 SO. CLINTON STREET, CHICAGO

1019 ELLIOTT ST., W., WINDSOR, ONT.



Volume XX

Number 4

SOAP *and* SANITARY CHEMICALS

Reg. U. S. Pat. Office

APRIL
1944

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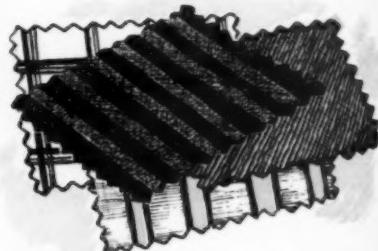
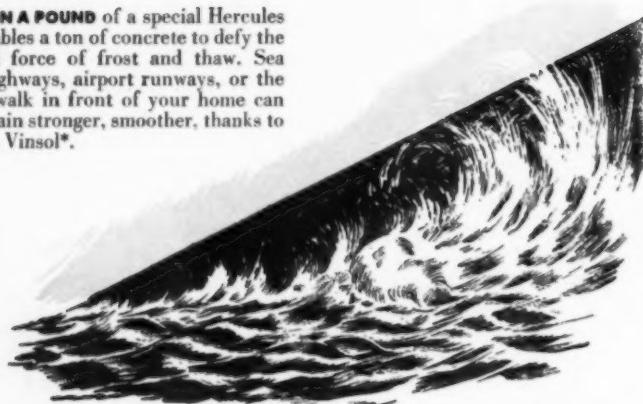
... A brilliant record in the field of research

"Hercules outstanding record in the field of terpene and rosin chemistry was made possible by the teamwork of operating men and a laboratory staffed by industry-minded research chemists, physicists, and chemical engineers. They transformed wood rosin, wood turpentine, and little-known pine oil into an array of purified products, tailor-made for special purposes, that today are indispensable to scores of the nation's leading industries.

"A trip through this splendid laboratory is a thrilling experience. Here one finds superb equipment, equalling the finest of the great American and European universities."

DAVID DIETZ, *Science Editor of the Scripps-Howard Newspapers, Author, and Pulitzer Prize Winner*

LESS THAN A POUND of a special Hercules resin enables a ton of concrete to defy the powerful force of frost and thaw. Sea walls, highways, airport runways, or the cement walk in front of your home can now remain stronger, smoother, thanks to Hercules Vinsol*.

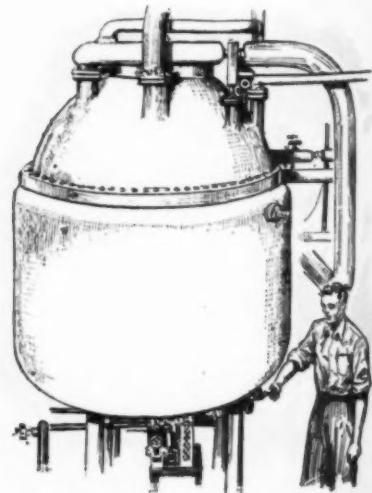


SAVING TIME AND MANPOWER for the textile industry at virtually every processing step is Hercules Yarmor* 302-W Pine Oil. In one large textile mill alone, this specially designed product cut a four-hour operation to two hours and with a cash saving

LONGER LIFE FOR ADHESIVES is but one of scores of product advantages gained with Hercules Staybelite*, another rosin chemical. Its ability to retain a tacky nature indefinitely is important to modern surgical and industrial tapes, masking compositions, and many other adhesives.



CONSERVING CRITICAL MATERIALS is but one important contribution of Hercules Poly-pale* resin to varnish resin producers. This polymerized rosin is permitting savings of glycerin and other scarce materials as high as 30% without sacrificing quality.



HERCULES
TERPENE AND ROSIN
CHEMICALS

OFFER ANSWERS TO MATERIALS PROBLEMS IN MANY INDUSTRIES

HERCULES POWDER COMPANY
INCORPORATED

961 MARKET STREET, WILMINGTON 99, DELAWARE

*Reg. U. S. Pat. Office by
THE HERCULES POWDER COMPANY

NI-41

No
Wax Formula
known to science
can duplicate

SUPER WAX

★ When you sell SUPER-WAX you're *not* selling a formula wax. You're selling a self-polishing wax that starts out with a higher gloss and holds on to that gloss without getting slippery as a ski run.

★ You're selling a waterproof Carnauba-rich wax that doesn't have to be peeled, skinned or chipped off when the time comes to remove it.

★ What you're presenting is a lighter, translucent, self-healing wax that's about as close to being non-skid as a water emulsion wax has yet achieved. Only this one doesn't get sticky or tacky—and it won't milk or soap up under tracked in slush.

★ This SUPER-WAX can be drenched and scrubbed with warm water 30 minutes after it dries. It's still a shining delight after a score of washings (but any good wax remover can take it off in a hurry).

★ You don't ever have to worry about it bleeding the colors on asphalt tile. This wax is chemically stable, inert, *harmpoof*.

★ Let them use it on painted or slate floors. Here is one wax that clings to ANY surface. And it doesn't finger-print every stray pair of rubber heels.

★ Call on the man with large areas of linoleum—battleship, inlaid, or print—the fellow whose floors are chalk dry from spilled disinfectants, alcohol or what have you . . . SUPER-WAX will actually *rejuvenate* those floors for him. It will replace the dried out, dead and crumbled binders and restore the original elasticity and life.

★ Sell SUPER-WAX to the man with rubber floors and his troubles from water stain and ground in dirt are gone forever—or at least as long as he keeps on getting SUPER-WAX, and not a substitute . . . For the plain fact is, *there is no substitute for SUPER-WAX*.

★ No formula known to Science can duplicate it. We could publish our formula here in Soap—down to the last dram of water—and there isn't a wax maker in America rash enough to claim he could match it.

★ For SUPER-WAX is the product of *wax making method*—not formula . . . The special way the Carnauba content is deep chilled for fine dispersion—the emulsifying technique by which we retain Carnauba's original toughness, wear and non-slip—the slow painstaking additions of just the right amount of wetting agents (to enhance its spread and leveling advantages)—these are but a few of the techniques that go into making SUPER-WAX what it is.

★ They are no more secret than is a performance by Heifetz. Anyone can buy a ticket to hear him . . . and any responsible jobber can get a seat on the SUPER-WAX Band Wagon . . . Complete sales data and generous sample on request.

HYSAN PRODUCTS COMPANY • 58 EAST CULLERTON STREET • CHICAGO 16, ILLINOIS

ALL TYPES: SELF-POLISHING • SOLVENT • PASTE • DANCE FLOOR

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FOR
QUALITY!

The maintenance of
High-Standards of Quality... even in the most
trying times has been our steadfast
policy for over 144 years. And today,
as always, for Quality
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Plant and Laboratories: Bayonne, N. J.



■ Beauty influences peoples' choice in everything from motor cars to mates—from the neckties they buy to the homes they choose to live in ☆ It's the force that moves people to favor one product over others of its class. A common weighing scale is redesigned and its sales double. Beauty in carpet sweepers puts one brand out in front. Very wisely, car manufacturers spend fortunes to give their models eye-appeal. And Florenz Ziegfeld proved for all time to the entertainment industry that beauty pays—and pays—and pays ☆ *It pays in packaging* ☆ That's why, in every Package by Ritchie—whether it contains a rare perfume or 50 toggle bolts—you will always find, in its lines, in its proportions, color or general design, a strong eye-pleasing quality . . . elements of beauty ☆ Seventy-eight years' experience has taught us, here at Ritchie, that beyond the problems of material, structure, function, production and cost, our prime aim still must be—to create a package that will help the product SELL.



HOW TO GET A BETTER PACKAGE AT LESS COST

Let Ritchie design a package for you and it will have beauty more than skin deep. It will have the right material and structure for its job. It will be practical, convenient to use, easy to handle, to stock and display. It will proclaim your product identity. It will be memorable and attractive. And Ritchie's expanded, war-developed facilities for volume production assure its low cost. Let Ritchie demonstrate how you can get a better selling package. No obligation. Write us today.

W. C. *Ritchie*
AND COMPANY
8881 BALTIMORE AVENUE - CHICAGO
Set-Up Paper Boxes
Fibre Cans
Transparent Packages

NEW YORK DETROIT LOS ANGELES ST. LOUIS MINNEAPOLIS

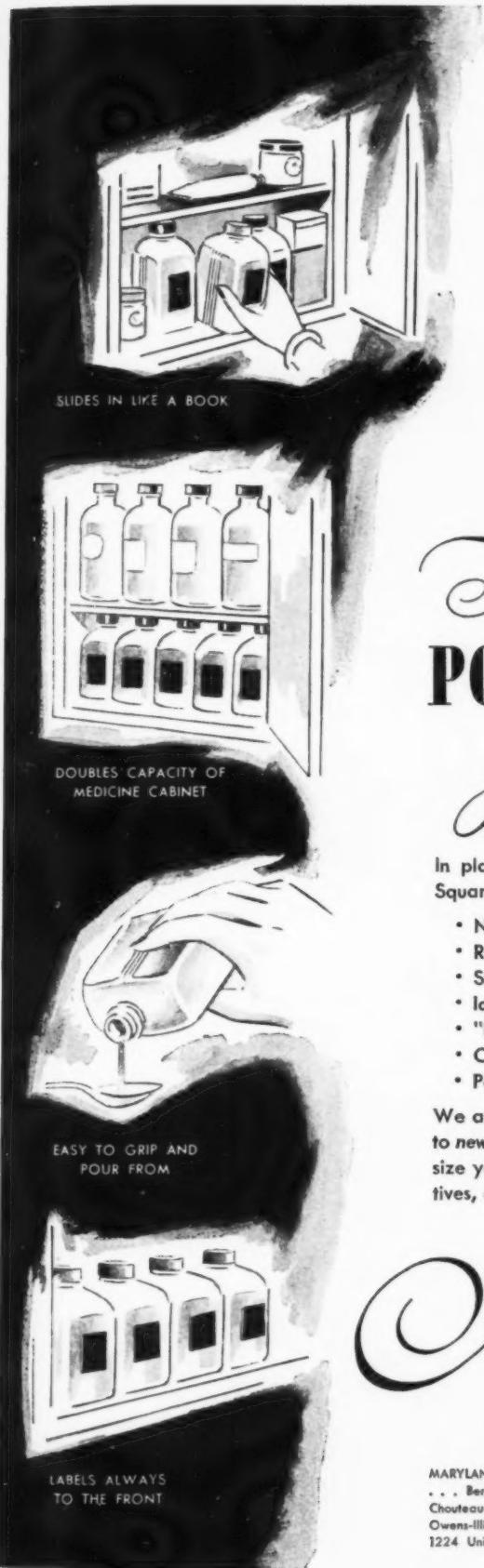
"BEAMAX" DRIES TO A LUSTRE LIQUID WAX

ADVANTAGES:

- Simple to Apply
- Dries quickly
- Requires No Polishing
- No Odor
- Long Wearing
- Easily maintained by dry or damp mopping
- For all Floors
- Water Resistant when dry
- Freezing Does Not Break the Emulsion
- Will Not Solidify in Storage
- Uniform Quality
- Surface Adherence
- Removability
- Coverage
- Stable Emulsion

Meets Specification P-W-151a.

THE DAVIES-YOUNG SOAP CO.—DAYTON, OHIO



The POSTWAR BOTTLE for your Product

In planning for the future, consider the advantages Cabinet Square delivers—whether you pack one or a line of products:

- No size too tall for medicine cabinet.
- Requires less space for shelf or counter display.
- Square shape makes it look big.
- Ideal for line of related products.
- "Big" label space on flat surface.
- Complete range of sizes (1 to 32 oz.).
- Packs compactly, reduces cost, less danger of breakage.

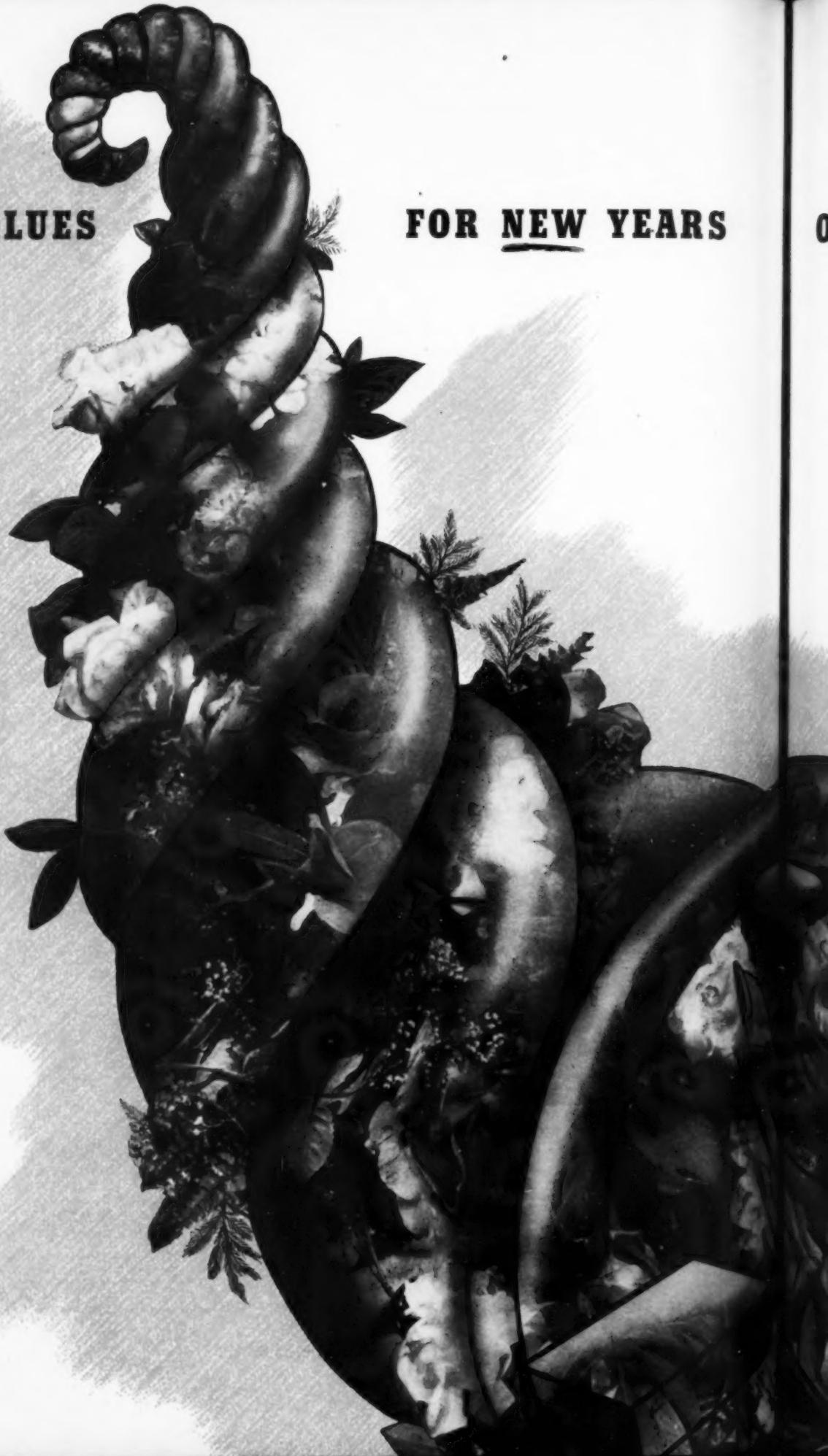
We are NOT in a position to make Cabinet Square deliveries to new users now but we will be glad to send a sample in the size you request if you, like many other sales-minded executives, are making package improvement plans for the future.

Maryland **BOTTLES AND JARS**

MARYLAND GLASS CORPORATION, BALTIMORE-30 . . . 270 Broadway, NEW YORK-7
 . . . Berman Bros., Inc., 1501 S. Laflin St., CHICAGO-8 . . . H. A. Baumstark, 4030
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 Owens-Illinois Pacific Coast Co., 135 Stockton St., SAN FRANCISCO-19 . . . Aller Todd,
 1224 Union Ave., KANSAS CITY-7 . . . S. Walter Scott, 608 McCall Bldg., MEMPHIS-3.

NEW VALUES

FOR NEW YEARS



OF PLENTY...WITH A PLUS BY

Givaudan

The past few years have been among the most difficult years which producers and users of perfume materials ever had to face. Yet in many ways these years have been the most fruitful, giving the industry new confidence in its resource and ingenuity.

Of the new developments helping to fill the places of materials made critical by war, many are making good to the highest quality standards...achieving results efficiently and economically in the compounding of a wide variety

of toiletries and cosmetic goods. Certain among these war-born "replacement" materials, therefore, can be expected to take their place in the peace years to come side-by-side with old reliables when these are available again.

Because Givaudan research has contributed importantly to these "new values" in aromatic chemicals, we are prepared to offer authoritative counsel on both the advantages and limitations of their use in post-war product development plans.

BUY WISELY—BUY GIVAUDAN

Givaudan-Delawanna, Inc.

330 WEST 42nd STREET, NEW YORK 18, N. Y.

OUR PLANT FACILITIES ARE AVAILABLE FOR ANY
FURTHER CONTRIBUTION WE MAY MAKE TO
PRODUCTION OF MATERIALS FOR THE WAR EFFORT.



WIDE RANGE

FLOWABILITY

A VARIETY OF VISCOSITY TYPES TO FIT EVERY JOB



In the preparation of a product, you have undoubtedly often wished for a water soluble colloid available in several different viscosities. Perhaps you wanted a solution much thicker—or considerably thinner—in order to obtain the specific results desired.

To meet your most exacting needs, we have designed Methocel in a wide variety of viscosity types. Selection of the most suitable type is dependent, of course, on results required and manufacturing limitations. Only when the right viscosity is used are maximum economy and efficiency achieved.

This wide-range flowability greatly expands the additional usefulness of Methocel in your operations—and, at the same time, promotes efficiency of application.

METHOCEL

THE ECONOMICAL, WATER SOLUBLE THICKENER



Methocel is a valuable addition to many cosmetic products requiring a thickener, protective colloid or stabilizer. For thickening purposes, a specially designed Methocel viscosity type is available. High viscosities are, naturally, generally recommended.

In protective hand creams and similar products, Methocel has several important functions. Emulsified forms of the product use Methocel as an emulsion stabilizer. In addition, Methocel serves as a protective film upon drying since it is resistant to both oils and organic solvents. By using low viscosity types here, desired amounts of solids are deposited.

Before adopting a specific Methocel type, we urge you to refer your problems to the Technical Service and Development Division.

**THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN**

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

METHOCEL

Among the many Dow Products serving the Cosmetic Industry are:
Synthetic Aromatics, Dowicidies, Propylene Glycol and Paradow.

Dow announces the opening of a Detroit office to serve this important industrial area

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY



Perfect for Perfuming

LAUNDRY SOAPS · WASHING POWDERS · LIQUID CLEANSERS · POLISHES, etc.

JAVONELLA

Even when Oil of Citronella was low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella is so high in price and difficult to get, JAVONELLA is more important to you than ever before.

FELTON CHEMICAL COMPANY, INC.

599 JOHNSON AVE., BROOKLYN, N. Y. · BRANCHES IN PRINCIPAL CITIES

*Write for
Samples &
Quotations*



MANUFACTURERS OF AROMATIC CHEMICALS, ESSENTIAL OILS, PERFUMES AND FLAVORS

STANDARD SODIUM SILICATE

- IMPROVES THE BODY
- MAKES SOAP STOCKS GO FARTHER
- RETARDS RANCIDITY
- IMPROVES DETERGENCY

of FLAKE...POWDER...BAR SOAPS



DIAMOND ALKALI COMPANY • Standard Silicate Division

Plants at CINCINNATI • JERSEY CITY
LOCKPORT, N. Y. • MARSEILLES, ILL.
DALLAS, TEXAS

General Offices • PITTSBURGH, PA.

We Manufacture...

Dishwashing Compounds

Cleaning Compounds

Potash Base Soaps

Soap Powders

Liquid Soaps

Scrubbing Soaps

Dance Floor Wax

Self Polishing Waxes

Detergent, Plain or Pine Odor

Scouring Cleanser, bulk and package

Mechanic's Hand Cleaner

China Cleen For removing all stains on china

Drain Solvent

Disinfectants

Bowl Cleaner

Metal Polish

Insecticides

Silver Detarnishing Compound

Silver Burnishing Powder

We operate a modern plant and solicit your inquiries

CHEMICAL MANUFACTURING CO.
AND DISTRIBUTING
EASTON. PENNSYLVANIA



Synthetic floral oils . . .

PRESENT reduced supplies of natural floral essences emphasize the value of high quality substitutes. Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these Norda substitutes as an answer to the scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

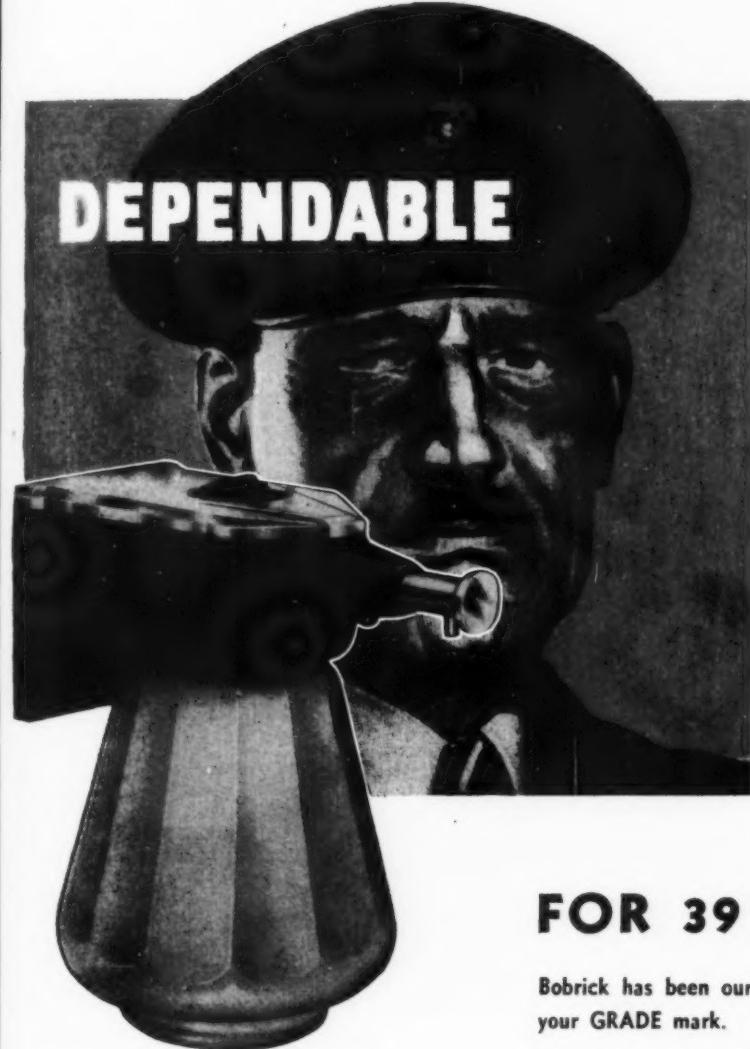
Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

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253 E. 4th St.

Toronto Office
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New York Office
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FOR 39 YEARS

Bobrick has been our TRADE-MARK and
your GRADE mark.

We pioneered most of the developments
in the Soap Dispenser field and there is no
substitute for BOBRICK quality.

Others may LOOK like ours but
PERFORMANCE is another story!


Bobrick
MANUFACTURING CORPORATION
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ANTOINE CHIRIS

Antoine Chiris was established in France in 1768 and all through these years pioneered in the development of its long-known worldwide organizations. The American branch was established in New York in 1899.

CHIRIS
is prominent in
PERFUME BASES
AROMATIC MATERIALS
for
PERFUMES • COSMETICS • SOAPS

Long and persistent experience in research enables Antoine Chiris
to solve your problems of replacement, substitution or adjustment.



ANTOINE CHIRIS COMPANY, INC.

115-117 EAST 23rd STREET, NEW YORK, N. Y.

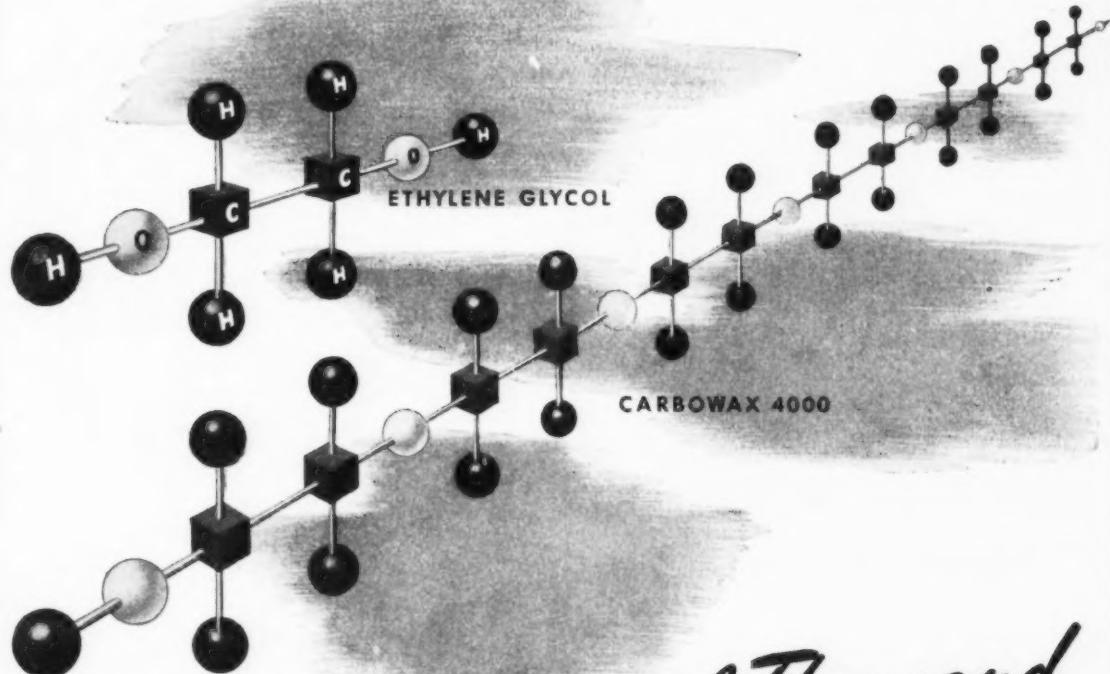
SOLE DISTRIBUTORS IN NORTH AMERICA FOR

PIERRE DHUMEZ ET CIE

ETS ANTOINE CHIRIS
GRASSE, FRANCE

PILAR FRERE

ANTOINE CHIRIS, LTD., LONDON, ENGLAND



From 62 to Several Thousand

THE two molecules pictured here are smallest and largest in the family of glycols produced by Carbide and Carbon Chemicals Corporation. With molecular weights from 62 for liquid Ethylene Glycol to several thousand for wax-like Carbowax compound 4000, the family consists of 5 simple glycols and numerous polyglycol mixtures. These chemicals are so important that some of them are now restricted to essential war applications.

The glycols have distinctive family traits: water solubility, a wide range of hygroscopicities, low vapor pressures, high boiling points, and the ability to lower the freezing point of water.

Glycols are good solvents for certain gums and resins; propylene glycol, particularly, is an excellent solvent for certain antiseptics and other chemicals of pharmaceutical importance.

Carbowax compounds are especially useful as bases for water-soluble cosmetic creams and therapeutic ointments. In addition, Carbowax compounds are used in hair dressings and conditioners, and in "no-rub-off" white shoe dressings.

Carbide and Carbon Chemicals Corpora-

tion was the first chemical company to develop large-scale production of glycols. Our chemists and engineers have also pioneered the development and production of 12 other important chemical families . . . including alcohols, ethers, amines, and ketones . . . useful raw materials for many industries.

Today we are producing in commercial quantities more than 160 synthetic organic chemicals . . . and more than 40 of these in tank car quantities. After the war these versatile chemicals will be available in greater quantities than ever before, and many new compounds with them.

For further information about the use of these chemicals, write to us.

SOME OF THE GLYCOLS WE MAKE

- Ethylene Glycol
- Diethylene Glycol
- Triethylene Glycol
- Polyethylene Glycols
- Carbowax Compounds
- Propylene Glycol
- Dipropylene Glycol

BUY UNITED STATES WAR BONDS AND STAMPS

CARBIDE AND CARBON CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation



30 East 42nd Street, New York 17, N. Y.

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

"Carbowax" is a registered trade-mark of Carbide and Carbon Chemicals Corporation.

Are you properly emphasizing the **SAVINGS FEATURE** OF YOUR PLANT'S PAYROLL SAVINGS PLAN?



WITH the war swinging into its tensest phase, now's the time to emphasize over and over again the *savings* feature of your Payroll Savings Plan. To press home to all your people the need of building up their savings—the need of building up their savings not only in wartime but also in the years directly after the war. To point out that a bond cashed before its full maturity is a bond killed before it has given its fullest service to its

owner—or to *his country*!

Buying War Bonds, holding War Bonds, and keeping wartime savings mounting—all are absolutely vital. But no one of these is enough by itself. The *savings habit* must be carried over into the years of reconstruction which will follow the war. For if, at war's end, we have 'flash-in-the-pan' spending, *everybody loses*. The spender loses, you lose, and the country loses! While a working public, convinced of

the value of continued, planned saving, is the soundest possible foundation for private enterprise of every sort.

We call these bonds War Bonds—and with their aid we will win this war at the earliest possible moment! But they're Peace Bonds, too—and, rightly used, they will win for their holders, *and for all of us*, a happy and prosperous place in the years of peace to come.

WAR BONDS to Have and to Hold.

The Treasury Department acknowledges with appreciation the publication of this message by

SOAP AND SANITARY CHEMICALS

★ Let's All Back
★ the Attack...
★ with War Bonds!

This is an official U. S. Treasury advertisement—prepared under auspices of Treasury Department and War Advertising Council



CITRONELLA OIL ARTIFICIAL

SPANISH ROSEMARY

SPANISH SPIKE LAVENDER

ARTIFICIAL SASSAFRASS

For many years much of the research and development work of our laboratory has been devoted to the perfumery problems of the soap and sanitary chemicals industry. As a result we have been able to supply synthetic products successfully to relieve shortages caused by war conditions. Why not consult us regarding your problems? Samples upon request.

ESSENTIAL OILS and SYNTHETICS

BERGAMOT
CASSIA
CEDARWOOD
CEDARLEAF
CLOVES
GERANIUM
LAVENDER
THYME
WINTERGREEN
PETITGRAIN
BENZYL ACETATE
TERPINEOL
AMYL SALICYLATE
ANETHOLE
CINNAMIC ALDEHYDE
CITRONELLOL
EUGENOL
ISOEUGENOL
HELIOTROPINE
ISOBORNYL ACETATE
LINALYL ACETATE
IONONES
MUSKS
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ROSE
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SWEET PEA

STANDARD SYNTHETICS, INC.

30 WEST 26th STREET

NEW YORK 10, N. Y.

BRANCHES AT
CHICAGO

SAN FRANCISCO

KANSAS CITY, MO.

KOPPERS

chemical raw materials for the soap,
insecticide and disinfectant industries



KOPPERS Phenol

KOPPERS Cresol

KOPPERS Cresylic Acid

KOPPERS Tar Acid Oils

KOPPERS Solvent Naphtha

KOPPERS Naphthalene

Koppers Company, Tar and Chemical Division, Pittsburgh 19, Pa.



*There is
no ceiling
on QUALITY*

Standards of quality change gradually, definitely. Quality moves upward . . . thru research . . . thru refining and re-defining of ingredients and materials. In the manufacture of perfumes and cosmetics, improving standards make for improved products.

To Florasynth this is a constant challenge. A keen inspiration that spurs its personnel to be constantly more exacting . . . to reach beyond the basic formula . . . to recognize that one factor shall never be limited . . . **QUALITY.**

Florasynthetics . . . Faithful Floral Reproductions
Jasmin • Lavender • Bergamot and others



Florasynth LABORATORIES, INC.
1513-1533 OLSTEAD AVE., NEW YORK 61, N.Y.

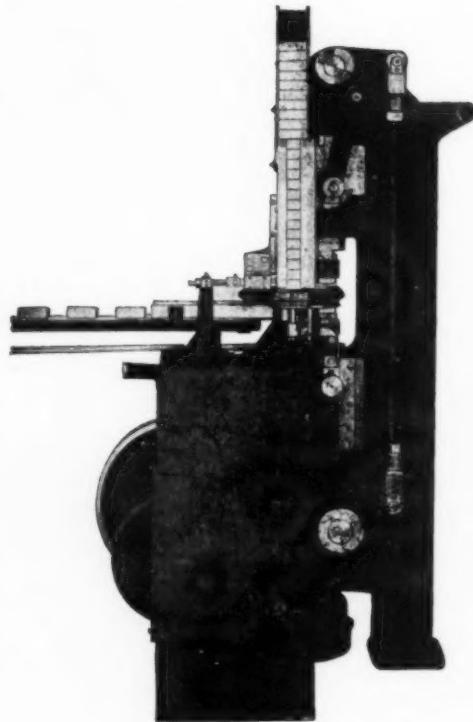
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NEW ORLEANS • ST LOUIS • SAN FRANCISCO • SEATTLE
MONTREAL • TORONTO • VANCOUVER • WINNIPEG • MEXICO CITY

JONES TOGGLE PRESSES

... cut costs in soap pressing!

REDUCE postwar costs by cutting out waste... old model soap presses mean imperfect pressing and much remilling and repressing... they mean stopping the production line while the dies are cleaned... they mean greater wear and tear on dies and more frequent replacement... they may mean loss of sales because your soap does not have the bright finish and clean impression of competitive soaps...

But by replacing your old, worn presses with JONES TOGGLE OPERATED PRESSES you can reduce pressing costs by long uninterrupted runs and elimination of frequent die cleaning... perfect pressing the first time, no remilling, repressing, or worse yet, rejections... the long, toggle stroke of the new Jones Presses insure clean, sharp, bright soap, a better all-around cake of soap... and this is why so many progressive soap manufacturers are planning to replace their old presses with NEW JONES TOGGLE PRESSES.



Type ET Toilet Soap Press



The Standardized CONSTANT MOTION CARTONER packages bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads.

R. A. JONES & COMPANY, INC.
P. O. BOX 485 CINCINNATI, OHIO

AS THE

EDITOR

SEES IT

USE of fibre shipping containers by soap makers was cut to eighty per cent of 1942 usage by WPB under L-317 effective April first. That this WPB order came as a shock to the soap industry is to put it mildly. In view of the sharp reduction in the consumption of all paper packaging materials undertaken voluntarily by soapers over the past two years, the industry least of all expected a cut of this extent. When we say that the effects of this order will be to bring confusion and chaos throughout the country in the shipment and marketing of three-quarters of American soap tonnage, we feel that it is no over-statement.

As a result of WFA order some months ago, manufacturers have been producing soap on an increased quota basis. Output for 1944 is at a materially higher rate than last year. But without containers, how can this larger production of soap get to market? While one government bureau moves to increase soap production, another chokes off the means of moving the production to the consumer. To us this just does not make sense.

As might be expected, the new container order has brought some rather bitter recriminations among soapers. Some feel that the reductions in container weights, the eliminations of liners, dividers, and in some cases, wrappers, made voluntarily in 1942,—the base year on which the eighty per cent is figured,—has in fact penalized the industry. Knowing that mandatory cuts were coming, most soapers acted voluntarily, as we pointed out last month, hoping that this would receive consideration in Washington when the time came. But with such consideration conspicuous by its absence under L-317, the feeling appears general that the industry has been double-crossed by WPB. As a consequence, where the soap industry has accepted philosophically numerous government restrictions over the past two years, this latest container order has engendered resentment. In the light of this, WPB might review the facts on which

its decision in the case of soap was based. Otherwise, we repeat, they are inviting complete confusion in the distribution of a vitally necessary large tonnage of American soap production.



RESTRICTIONS on civilian uses of glycerine have been suspended for the months of April, May and June by WFA. An out-and-out suspension of FDO-34 has followed a more liberal policy of allocations since the first of the year. For some months glycerine producers and refiners have been rather outspoken in their demands that they be permitted to get rid of their steadily growing accumulations of refined glycerine. Some producers, finding their storage capacities taxed to the limit, talked of running excess stocks of crude into the sewer unless they were permitted to move their stocks of refined in larger tonnage. Whether FDO-34 will remain suspended after July 1 will undoubtedly be governed by the rate at which present congested storage facilities are cleared and the position of stocks when June arrives. That this complete suspension of FDO-34 was the only solution of the refiners' plight had been becoming apparent for some time.



A PROPOSED plan for the re-use of fibre shipping containers to be tested out in the Chicago area by soap manufacturers appears to have been stymied, as far as we can judge, by the usual governmental red tape. So far, this container re-use plan has been held up by OPA inaction for some three months. In the meantime, it seems that OPA is attempting to determine the price at which these used shipping containers shall be bought back by soap manu-

facturers. This apparently is an extremely important detail, at least according to OPA thinking. While some soap maker could in about ten minutes set a sensible price to get the containers back, such a procedure would never do for a government bureau. Anything as simple or as direct as this is not the OPA way of doing things. Although the test plan is designed to meet an emergency situation, the usual devious and mostly inexplicable procedure must be followed.

We are reminded of the length of time consumed in putting through the ration-points-for-fats program last year. Had it not been for one or two action-minded officials of OPA, bickering over this project would in all probability still be going on in Washington. At the rate the container re-use plan is moving now, the results may be determined for general use or rejection some time along in 1945. The fact that there is a time element involved in solving this container problem would never be suspected from the actions of OPA.



TWO amendments to FDO-42 during the past month show a trend toward easing quota regulations covering soap manufacture. Although the amendments are in themselves relatively of a minor character having little effect on the operations of most soap makers, they show the readiness of W.F.A. to adjust FDO-42 promptly to meet developments within the industry or in the raw material situation. One of the amendments permits a shift in fat and oil quotas within a soap plant from one type of soap to another. For example, a lessened use of fats in toilet soap production may be applied proportionately to increase the output of industrial soaps or other type as the need may be. This gives the soaper a flexibility in the use of raw materials which should aid in adjusting his business to the proportions of demand at any time. The second amendment is in fact a quota bonus to those who use linseed oil fatty acids. Only one-half of the quantity of these fatty acids used need be charged against fat and oil quotas. This latter encouragement to voluntary consumption of more linseed oil in the soap kettle is, we feel, much preferred over any plan calling for the mandatory use of the oil or its derivatives.

ALTHOUGH never really as bad as it was painted, American Army general issue soap has been the subject of many a soldier's lament. Stories about the rather vigorous detergent properties of old-fashioned G. I. soap have been humorous and numerous. But like many grandmother's tales which have been handed down for years, tales of G. I. soap were not always strictly in accord with the facts of science, and were, it might seem, colored from time to time to fit the occasion. At times we have been inclined to doubt the story of the bar of G. I. soap which fell from the wash-stand into a rookie's shoe, and ate its way through the sole of the shoe and through the wood floor of the tent to boot. But far be it from us to set up views opposed to the finest in Army G. I. soap tradition.

Like many other things in this streamlined war of 1944, it seems that Army G. I. soap is to be modernized. Already the scientists are at work on specifications for the new variety. The historic soap maker who has dreamed of making a bar of water stand alone would be shocked to learn that the moisture content of the new G. I. is to be materially reduced. Free alkali, the reputed source of the great vigor and dissolving properties of old G. I., is to be cut to innocuous proportions. Free fatty acid must be less in the new. In short, G. I. soap finds itself in the path of the inexorable march of science. And though steeped deep in Army tradition dear to the hearts of old-timers, it must now be prepared to bow to the inevitable.



THAT no drive has ever run up against more plain ordinary tough luck than the fat salvage campaign, we would be willing to make a substantial wager. The change in complexion of the glycerine situation since fat salvage was inaugurated, has removed one of the strongest publicity appeals. The recent developments in lard have added their share to the trials and tribulations of the fat campaign. Heavy production of domestic vegetable oils has added its weight. But withal, fat salvage has been a good anchor to windward and continues to be.

LIQUID TOILET SOAPS...



S WITH many other industrial products, the war has brought many changes in the formulation of liquid toilet soaps as well as other soap products. With coconut oil, in pre-war days the most common raw material, now obtainable only in reduced quantities, the soap manufacturer, who formerly never considered using other oils, has had to stretch his short supply of coconut oil by using a high percentage of other fats with it. He has had to make increased use of oleic, linoleic and linolenic acids, as found in low-titre vegetable oils, such as soya bean oil, linseed oil, corn oil and refined tall oils, or straight oleic acid. As far as detergent power is concerned, satisfying results have been obtained despite the reduced sudsing character of such soaps.

Sudsing qualities, which are in no way identical with detergent qualities, are most highly developed in soaps made from lauric and myristic acids, as every soap maker knows. Such soaps lower the interfacial tension between water and air to a minimum and therefore form the most copious foam or lather. The sudsing qualities of the different soaps are usually determined by shaking 100 cc of a soap solution, containing 0.6 per cent fatty acid in a graduated cylinder for 30 seconds and observing for 3 minutes the setting of the foam, the amount of suds formed and the amount of solution transformed into suds.

A special sudsing test apparatus has been devised by C. Stiepel.¹ The amount of cc of the soap solution, which has been transformed into suds and which remains after 3 minutes, he calls the sudsing number. In table 1 are some results of tests, conducted by N. N. Godbole² and M. Sadgopal³, and in table 2 such from R. Tungkunz.

a review of formula changes that have been forced by raw material shortages . . . and a study of the effect of these changes on characteristics of the finished soap

By Andrew Treffer

Some electrolytes such as caustic soda, sodium carbonates, sodium silicates and especially sodium phosphates improve sudsing qualities enormously. But as most of these materials thicken liquid soaps or raise their pH too much, only tetra-sodiumpyrophosphate, a very effective water softener, added in a percentage of 0.1-0.2, has proven to be of real value. Saponin, sulfonated products and synthetic detergents, like "Nacconal," "Lamepons," "Tergitol," "Aerosol" and others, added to soap solutions in smaller quantities reduce sudsing qualities, strange as it may seem. The reason for this effect must be found in the difference of the chemical composition, the different surface tension and capillary activity of the molecules. The suds formed in such mixed solutions acts as if an interfacial tension, created between the two entirely different solutions were breaking it. The concentrated mixtures set aside for several days show a separation of the two different soaps, indicating an interfacial tension.

A liquid toilet soap cannot act as a cleaner until it is diluted by wetting the hands with water,—reducing it from a 20 per cent solution down to a 1-10 per cent solution. A soap solu-

tion acts toward oil, grease and other soil commonly found in factories and buildings in much the same manner as it acts toward hard water. As outlined in the article "Detergent Value," *Soap & Sanitary Chemicals*, May 1941, the value of a soap solution is determined by titrating 58.3 cc tap water with the 1 per cent soap solution to a permanent lather, lasting at least 5 minutes, in a 4 oz. oil bottle, and comparing the number of cc obtained with the cc hardness titration, found by using a standard soap solution.

In order to prove the above statement, the author added 1 cc mineral oil to the 58.3 cc tap water and began titrating such oil in water emulsions with different 1 per cent potassium soap solutions to permanent lather lasting 5 minutes and found that the ability to emulsify oil began with potassium caprylate and increased in that series up to potassium palmitate, the maximum, then beginning to decrease with potassium stearate. V. Lehner, V. R. Buele, N. I. Iajnik and B. Illahi made the same observation in other tests. As to emulsifying efficiency, potassium coconut oil soap does not compare very favorably with potassium soaps made from soya bean

Table 1—Sudsing number of pure soap at 30 C.

Soap	Sudsing number of Na-soaps	Sudsing number of K-soaps
Caproate	0	0
Caprylate	0	0
Caprate	0	0
Laurate	16.9	23.2
Myristate	48.9 ⁴	49.4
Palmitate	5.4	20.4
Stearate	1.6	7.3
Oleate	15.4	21.3
Linoleate	1.1	6.2
Ricinoleate	0	0

Table 2—Sudsing number of soaps from natural fats (fatty acid content 0.4%).

Soaps from	Na-soaps, sudsing number after		K-soaps, sudsing number after	
	1 minute	3 minutes	1 minute	3 minutes
Coconut oil	53	30	72	45
Tallow	..	30	35	25
Lard	51	30	25	12
Olive oil	28	15	24	10
Peanut oil	25	13	22	13
Sesame oil	23	13	20	11
Rape oil	22	10	20	10
Rosin	15	7	14	6
Peanut oil, hydrogenated	60	40	35	24
Sesame oil, hydrogenated	65	40	45	31
Cottonseed oil	23	13	20	12

Table 3—Titrations of 58.3 cc Detroit water (5.4 U. S. grain hardness) with and without 1 cc mineral oil to permanent lather, lasting 5 minutes, with different 1% soap solutions.

1% Soap solutions, containing glycerin	58.3 ccm hard water titrated without the addition of mineral oil	58.3 ccm hard water titrated with the addition of 1 ccm mineral oil
K—Coconut oil soap	10.7 ccm	16.0 ccm
K—Soya bean oil soap	6.2 ccm	6.7 ccm
K—Soya bean oil (2/3) + rosin (1/3) soap	8.1 ccm	9.5 ccm
K—Soya bean oil (1/2) + coconut oil (1/2) soap	8.1 ccm	9.2 ccm

oil, corn oil and other vegetable oils having carbon chains of C_{18} . Such a comparison of cocoanut oil soap with soya bean oil soap is given in Table 3.

High molecular fatty acid soaps with molecules of C_{16} and C_{18} lower the interfacial tension between oil and water and between Ca, Mg, Fe soap and water more than the low molecular fatty acid soaps present in cocoanut oil soaps. The interfacial tension is dependent upon the grade of affinity of one substance for another. Acetic acid, CH_3COOH , a lower fatty acid, does not mix with mineral oil, but oleic acid, $CH_3(CH_2)_7CH:CH(CH_2)_7COOH$, a higher fatty acid, mixes readily with mineral oil. The CH_3 and CH_2 radicals have great affinity for the polymethylene chains of the paraffin oils, while the—COOH radical has no affinity. In a small molecule, like CH_3COOH the CH_3 group is

too much under the influence of the acid radial—COOH. The longer the methylene chain becomes, the less is such influence and the more the affinity of the paraffin oil to the methylene chain.

Measurements, conducted with the ring method of F. G. Donnan, H. E. Potts and others have proved that the interfacial tension of soap solution to oil is lowered with the increase of the CH_2 —radicals in the fatty acid molecules. Oleic, linoleic, linolenic, stearic and palmitic acids have the highest affinity to oil. Their soap solutions therefore display the lowest interfacial tension toward oil. Abietic acid, so commonly used in soluble oil, and other fatty acids with a molecule above C_{18} —may have a still lower interfacial tension toward oil, but their only solubilizing group—COOH is scarcely able at room temperature to solubil-

ize such a big molecule in the form of soap. For use at high temperatures, where the solubility of soap is increased and the interfacial tension decreased, they produce better detergents.

Warm water also decreases the interfacial tension between the C_{18} soap molecules and oil or hard water. Soluble oils, which have been balanced at room temperature so that they are completely soluble, are often water insoluble at low temperature, but show increased solubility at higher temperatures. In titrating hard water with different 1 per cent soap solutions, a similar process takes place. The Ca, Mg, Fe soaps formed are peptised, taken up in solution again by adding an excess of soap. Soap molecules with long carbon chains have a greater affinity and a lower interfacial tension to those metallic soaps and are therefore better emulsifiers. Carbon black, dye-stuffs and other high molecular organic compounds also have a greater affinity to soaps with high molecules.

The author has used the above mentioned hard water test for determining the detergent values of different soaps in so many cases and with such good results, especially in comparing his own soaps with competitive products, that he thinks soap manufacturers ought to consider adopting a method of this type. This test does not replace a complete laboratory test, but it gives the manufacturer, the soap salesman and the consumer of soap an approximate idea about the value of the different soaps, especially if they are made from fats and fatty acids. Sulfonated products and synthetic detergents naturally cannot be included in this determination of detergent value as they act in an entirely different manner toward Ca, Mg, Fe soaps and paraffin oil. Actual washing tests and other methods may be employed for determining their detergent value, wetting and dispersing ability.

IN HARD toilet soaps palmitic and stearic acids form a high percentage of the fatty acid content, but in liquid toilet soaps they cannot be used freely. Especially during cold weather they cause cloudiness or are filtered off

in the filter press. Besides myristic and lauric acid, the most used fatty acids in liquid toilet soap manufacture are oleic, linoleic and linolenic acids. The increase in unsaturated groups of the C₁₈ fatty acid molecule reduces the titre and improves the detergent value of such soaps at low temperatures considerably. At high temperatures linoleic and linolenic acid oxidize so rapidly that their detergent value is insignificant. Titration tests with pure linoleic and linolenic acid soaps can be correct only, if no oxidation of the molecule has taken place, and unfortunately in many instances this cannot be easily prevented. The great value of the unsaturated groups is in the fact that they increase the affinity of soaps to the highly unsaturated benzol ring, its derivatives and organic solvents, and make cleaning in such cases so much easier. One unsaturated group present in oleic acid increases the solubility of aromatic carbohydrates in different soap solutions considerably as is shown in Table 4.

Phenol, cyclohexanol (Hexalin) and methylcyclohexanol (Methyl Hexalin), with their OH groups, dissolve in concentrated and diluted soap solutions similar to aliphatic alcohols to a very high degree. Benzol, toluol and xylol, with no solubilizing group, show in their solubility a decided preference toward the oleic acid soap. Such preference is still more expressed, if the unsaturated groups (Iodine value) are increased as is shown in Table 5.

The linoleic acid in soya bean oil fatty acid soap, with its two unsaturated groups, interlocks in its soap micelle the constituents of pine oil and the more complicated structure of eugenol much more intimately than will oleic acid soaps.

ANOTHER fatty raw material, which can be used in liquid toilet soaps is tall oil. This dark yellow to black colored liquid to semi-liquid mixture consists of oleic, linoleic, abietic, other resin acids, phytosterol, higher alcohols and other unsaponifiable matter. Distillation and especially repeated distillation removes the odiferous substances, abietic acid and part

Table 4—Solubility of aromatic carbohydrates in 100 ccm of different soap solutions at room temperatures by C. Engler and E. Dieckhoff.⁷

	Na-acetate cold saturated	Na-butyrate 50%	Na-isovalerianate 50%	Na-palmitate 10%	Na-stearate 10%	Na-oleate 10%
Benzol .	0.1 ccm	1.6 ccm	3.6 ccm	1.8 ccm	1.6 ccm	10 ccm
Toluol ..	2 drops	0.8 ccm	2.4 ccm	1.3 ccm	1.5 ccm	9.6 ccm
Xylool ..	1 drop	0.5 ccm	1.2 ccm	1.4 ccm	1.0 ccm	7.4 ccm
Turpentine oil ...	1 drop	0.4 ccm	0.7 ccm	0.4 ccm	0.8 ccm	7.0 ccm

Table 5—The relationship of unsaturated groups to the amount of aromatic hydrocarbons dissolved or taken up in different soap solutions.

10% K-soap from	Tallow fatty acid	Oleic acid	Soya bean oil fatty acid
Iodine number of fatty acid.....	40	80	145
Viscosity of 1 ccm soap solution at 80° F by a 1 ccm pipette.....	5 seconds	3 sec	3 sec
Viscosity after stirring in 4% Pine Oil "Yarmor"	100 sec	45 sec	360 sec
Viscosity after stirring in 2% Eugenol by heating and cooling.	paste	70 sec	heavy paste
After stirring in 10% Acetophenone by heating and cooling clouding occurred at.....	150° F	130° F	no clouding at room temperature but after stirring in 5 more % clouding at 100° F

of the unsaponifiable matter and yields a product similar to corn oil fatty acid or oleic acid. The better grades of the different tall oils on the market contain from 40-60 per cent oleic and linoleic acids, 30-50 per cent abietic and resinous acids, and 8-14 per cent of unsaponifiable matter. On storing in tanks and exposure to lower temperatures, the interfacial tension between the constituents of the better grades of tall oil will be increased and heavier substances like abietic acid will crystallize and drop out, leaving the oil layer on top which consists mostly of oleic and linoleic acid.

The detergent value of soaps made from this top layer is naturally high and it can be used freely in combination with other high grade fatty acids. Because of the presence of 30 to 50 per cent abietic and resin acids in tall oil, a 35-40 per cent sodium or potassium—tall oil soap will still be liquid similar to potassium coconut oil soap, and the percentage of anhydrous soap in such liquid soaps can be increased, if tall oil is mixed with other fatty acids. The dark color, connected with tall oils and rosin and also some of its odor can be removed by treating the cooled liquid soap with about

0.1-0.05 per cent concentrated hydrogen peroxide solution in a kettle, equipped with a stirrer, for one or two days before filtering through a filter press. Pine oil and its components cover the odor of tall oil better than many high grade aromatic chemicals. To determine the comparative value of different tall oils, the method for detergent value, described above, can be used. Among the different tall oils there are some grades which are as high as coconut oil in detergent value, and other grades whose soaps give no permanent lather.

Another substitute for fats which finds use in soaps is rosin. This as is quite well known is the residue from the distillation of turpentine oil and consists for the greater part of abietic acid, a certain amount of other acids like pimaric, sapinic and pyroabietic acid, unsaponifiable matter and oxidized products. Rosin has a density of 1.07-1.09, a softening point of about 70°C, a clear melting point between 120-130°C, an iodine number of 100-200, and a saponification value of 145-195. The higher the saponification value, the higher in general is the value of rosin for soap use.

As the solubility of rosin soaps in hard water is very low, they are best blended with soaps whose solubility is high, such as coconut oil soaps. In such mixtures the highest percentage could be a high grade fatty acid of the C₁₈ type and the blend will approach very closely the detergent value of the C₁₈ group. The addition of rosin seems to protect soaps against rancidity. Only 2 to 3 per cent rosin is necessary. It is easily oxidized and apparently reacts with the oxygen to form oxidation products which have no rancid odor.

Rancidity resulting from oxidation develops most commonly in soaps which contain more or less linoleates and linolenates, especially when exposed to metallic salts and metallic traces. Experiments of F. Wittka indicate that saturated neutral fats resist the effect of metals without much change, but highly unsaturated fats will be easily oxidized by traces of heavy metal salts. Copper salts have in this respect the highest catalytic effect. The catalytic effect decreases in the following order: Cu, Fe, Ni, Mn, Hg, Pb, Sn. With the unsaturated fatty acids, metallic soaps are probably formed and it is in these easily oxidized salts that the rancidity reaction is started. Prolonged heating and exposing a large surface of a soap solution to oxygen of the air and light has the same effect. Rancidity by the activity of bacteria on proteins and other impurities can also develop in saturated fatty acid soaps like coconut oil soap. In the first case the odor of ammonium compounds is noticeable.

Increased employment of women in factories and war-time changes in soap formulas has increased the attention which must be paid to the alkalinity of soaps. Various methods for such determinations have been tried out: test papers, colorimetric methods and electrometric methods. While the results in testing acids, salts, alkalies, etc. by the different methods commonly agree with each other, widely different results are obtained in testing colloids like soaps and proteins. It

Table 6—pH readings (electrometrically) on different neutral 1 and 10% Potassium soaps and their Detergent value.

K-soaps from	pH of a 1% solution at 80° F	pH of a 10% solution at 80° F	Detergent value of a 1% soap solution by titrating 58.3 ccm Detroit water (54 U. S. grain hardness) to permanent lather (lasting 5 minutes) at 80° F
Stearic acid	11.45	11.0	7.2 ccm
Palmitic acid	10.9	10.65	5.4 ccm
Myristic acid	10.4	10.25	7.3 ccm
Lauric acid	9.95	9.9	17.0 ccm
Capric acid		9.5	.....
Caprylic acid	9.0	9.15	.....
Acetic acid	7.55	8.0	.....
Abietic acid	9.9	10.3	.....
Rosin	10.5	10.8	.....
Tallow fatty acids	10.6	10.35	6.7 ccm
Oleic acid	10.15	10.15	6.0 ccm
Soya bean oil fatty acids	9.95	10.0	Iodine #40 Iodine #80 Iodine #145

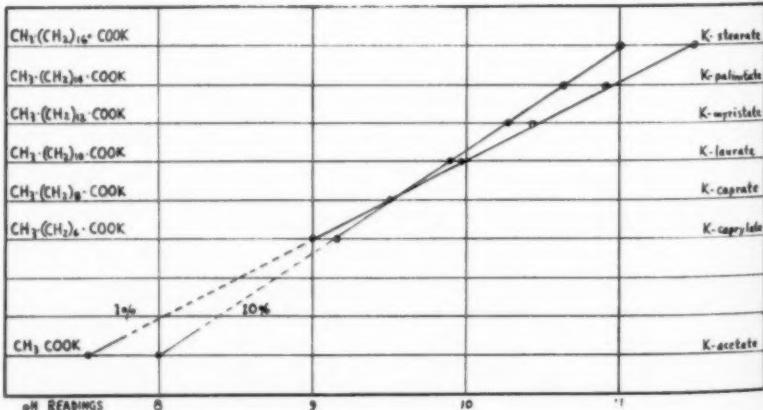
must be kept in mind that the dyestuffs used in colorimetric determinations have a more colloidal nature than the colloids which are being tested. They are either difficultly soluble in water, or only soluble in alcohols and in alkali solutions. In adding them to neutral soap solutions, they turn insoluble again or disappear in the interior part of the soap micelle without much effect to the cationic part of the soap. The pH values are therefore generally low, but in presence of free alkali, and on heating, where the solubility of dyestuffs as well as of soaps is increased, the reaction is increased and higher values are obtained.

The electric current, which is employed in electrometric methods, penetrates colloids and will give correct values. The Coleman Electric Co. in Maywood, Illinois, has developed with its apparatus an electrometric method by using the following cell, as expressed in electrochemical notation:

Ag—AgCl—Chloride buffer—glass—unknown solution—saturated KCl—Hg: Cl—Hg. The apparatus represents a reliable production control instrument of almost universal application. In using model 3D, the following results have been obtained on the different neutral soaps, as shown in Table 6 and in accompanying drawing:

THE colloidal nature of high titre soap solutions of the saturated series increases in concentrated solutions. The alkalinity of the concentrated higher soaps is therefore lower than the alkalinity of their diluted solutions. A 1 per cent potassium stearate solution is more hydrolyzed than its 10 per cent solution. This difference in hydrolysis is 0 at potassium caprate, then the lower soaps begin to show higher pH values in their 10 per cent solutions. While the electric current, used in the electrometric

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A REVIEW OF THE CURRENT SUPPLY
PICTURE AND THE FUTURE MARKET
OUTLOOK ON PALM AND PALM KER-
NEL OILS . . . AT ONE TIME IMPOR-
TANT SOAP MAKING INGREDIENTS

PALM OIL, supplies of which might have been a big help to soap makers over the past year or two in replacing lost sources of fats and oils, has turned out up to this point to be nothing but a big disappointment. When we lost our Sumatran source of palm oil about two years ago, on top of loss of Philippine sources of coconut oil, American soapers still hoped that they might be able to tap the substantial quantities of palm and palm kernel oils known to be available in Africa. Particularly after we defeated the Germans in North Africa, there was increased hope that this victory might give us access to these needed vegetable oil sources.

The actual story is, however, that use of palm oil in the soap kettle has continued to drop further from year to year. Pre-war consumption of palm oil by the soap industry normally ran somewhere in the neighborhood of 100 million pounds per year. In the record soap production year of 1941, a total of 129,871,000 lbs. of palm oil went into soap. This dropped to 55,865,000 lbs. in 1942, and a further drop to 32,621,000 lbs. was recorded in 1943.

The reduced quantities of palm oil that have turned up in the soap kettle have, as a matter of fact, not been intended for this end use at all by

the government agencies in charge of palm oil importation, but have been diverted to soap from surpluses built up for use in the treatment of steel and tin plate. Palm oil use has been subject to close control over the past two years, first by WPB and later by FDA, (FDO-38), and the basic program has been designed to assure ample stocks for use in the manufacture of tinplate, terneplate, steel sheets, blackplate, etc. The general working formula has been to keep a six months' supply available for use by the rolling mills. When stocks have mounted above this level, the excess has customarily been diverted by the FDA to soap use. Policy has been to turn over to the soap industry the oldest stock, before development of excess acidity might proceed too far. It is only on this second hand basis that soap makers have been able to get any stocks of palm oil over the past two years.

Recently, however, the supply outlook seems to have shown a measure of improvement and some promise that over future months soap makers might be able to count on receiving more palm oil,—perhaps some importations specifically for use in the soap kettle. With the stockpile for metal use established on a firm footing, and with the bulk of the heavy metal armament program fairly well completed, there is

liable to be less demand on the available supplies of palm oil from this direction in the months ahead. More steamers with the deep tanks necessary for transportation of palm oil are now said to be available, the submarine menace has been brought under control and those closest to the picture say that in the course of the next six to nine months, imports may bulk considerably larger. The unpredictable factor which may interfere is of course the projected invasion of Europe. The demands it will make on all types of shipping could quite possibly result in our getting less rather than more palm oil over the coming months.

The problem, like so many others today, is primarily one of transportation. Reports from producing areas in West Africa indicate that there are fairly substantial stocks of palm oil there which could be picked up if we had the ships to spare. Shortly after the outbreak of the war, world wide sources of fats and oils were divided up equitably by Great Britain, United States and Canada, to insure orderly marketing and use. In this division the United States received a proportionate share of African palm oil, as did Great Britain and Canada. They have been able to pick up and use their shares, while up to this point the United States

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INDUSTRIAL METAL CLEANERS...

A brief discussion of the products and methods used by metal fabricators and finishers, and the trend in their composition



S the name indicates, a metal cleaner is any product designed and suitable for cleaning metal surfaces. Whether it be just a solution of soap or a strong abrasive such as beach sand, the material may under some circumstances fall in the category of a metal cleaner. The product may be designed for household scouring of metal objects or for cleaning and degreasing iron, steel, brass, aluminum or similar items on a large industrial scale. It may function by abrasion or other mechanical means, by solvent action, by emulsification, by chemical action, or a combination of two or more of these.

For industrial applications, the term, metal cleaner, is generally considered to have a somewhat narrower meaning and is ordinarily used to designate those substances which are used for treatment of metals on a large scale for the removal of grease, scale, dirt, and the like by solvent, detergent or chemical action prior to fabricating, finishing, painting, rust proofing, plating or other processing. The cleaners are ordinarily used in solution for immersion, mostly hot,—but sometimes cold as in the case of solvent sprays. Where abrasive action is involved, the operation usually falls in the category of polishing and the products used are not generally classified as industrial metal cleaners.

As is quite apparent, the demand for metal cleaners varies closely with general industrial activity. During the past three years, the demand for all types of metal cleaners has probably been at the high point in history. With metal fabrication exceeding all previous records, the consumption of

cleaners has kept pace with this activity. Under the pressure of need for special requirements born of war production, some new types of metal cleaners have been developed, mostly modifications and combinations of older principles. The bulk of the demand is reported still going to the phosphates and silicates, soda ash, caustic soda, and other alkalies, and the mineral acids. Of late, the synthetic detergents have been finding new and wider uses, having proved to be of unusual effectiveness under specialized conditions, and being used mostly in combination with some alkali. During the past few years, the coal-tar emulsion type cleansers have shown considerable expansion in use in petroleum solvents for degreasing and cleaning engine blocks, other machine parts, metal surfaces generally, but not as a rule in connection with original fabrication.

Although the first patent covering a metal cleaning compound was issued in the United States in 1884,—comprising a mixture of caustic soda and eggs,—and some three to four hundred patents covering metal cleaner formulations have been issued since that time, the statement was made recently by a manufacturer close to the field that only during the past few years has any real progress been made in the science of industrial metal cleaning. Apparently, fabricators of metals were quite well satisfied with the results obtained from the old-line cleaners, notably caustic soda and soda ash, and furnished little incentive for research or new developments. The opinion has been expressed that such technical progress as has been made over recent years, has been made in

spite of limited interest in most sections of the metal fabricating industry.

AN over-all view of the field of metal cleaning compounds gives the impression that such a compound may be almost anything,—any one of hundreds of combinations and formulas, some of which are practically duplications of competitive products. For example, one firm is reported to sell sixty-nine different compounds, all designed for metal cleaning of one type or another. It would seem that the manufacturer who specializes in metal cleaners and who supplies ample service to his customers, demonstrating and trouble-shooting, is the firm which gets the most business at the best prices. Because the great majority of plants consuming metal cleaners do not have chemically-trained men on their staffs, they must to a great extent depend upon the outside specialist and pay him for his specialized knowledge as well as for the chemical compounds which he delivers. That this has given opportunity for mixing in considerable hocus-pocus under the guise of chemistry, is obvious,—and in this respect, metal cleaners do not differ a great deal from some chemical mixtures used for other purposes.

Opinion appears to agree that for heavy duty, large scale cleaning of steel sheets and the like, the alkalies are not only cheapest, but most practical. Of the various alkalies, the conclusion might be drawn from the views of a few students of metal cleaning that the metasilicates have been shown superior. But a large tonnage of caustic soda, soda ash, phosphates and other silicates continue to find use. Generally they are used in about a five or six per

cent solution in boiling water. Movement of the solution is essential. On some occasions, metal sheets are passed between brushes revolving counter-currently. Owing to the fact that metasilicates are under allocation and difficult to obtain in sufficient quantities unless on high priorities, other alkalies are being used in some instances where metasilicates were used previously.

Alkali metal cleaning is carried on both with and without the aid of electricity. Where an electric current is passed through the steel plates or other metals while they are hung in boiling alkali solution, the rate of cleaning is speeded up greatly. The formation of hydrogen on or at the plate or metal object is stated to be very effective in aiding the removal of rust, scale, or other oxidation products. The action is probably both chemical and mechanical. Electrolytic metal cleaning which has been in use for some years, can produce a chemically clean surface on metal in about four minutes whereas the same alkali solution at 212° F. without the use of current will take up to two hours to give the same result.

As has been mentioned, large scale metal cleaning has varied widely from plant to plant both in method and materials. For many years, most of the processes used have been of the hit-or-miss variety, some dictated by

prejudices and hunches of foremen rather than by the chemical facts involved. In recent years, efforts on the part of a few manufacturers of materials especially designed for metal cleaning to educate metal fabricators and to place the cleaning processes on a firmer scientific basis have met with some success. To the extent that it has forced some metal fabricators to modernize their cleaning operations in order to speed up production, the war has aided this progress. But inasmuch as it has brought about shortages of certain chemicals essential in the newer processes and forced manufacturers to rely on the older products, it has retarded progress. However, with the termination of the war, the belief is prevalent that metal cleaning will become an entirely new and far more exact science than that generally known prior to 1938.

That the metal cleaning process must vary with the metal and the conditions is quite apparent. Heavy steel plates can stand a lot of rough treatment, both mechanically and chemically. They are handled in large tonnage and must be cleaned cheaply without too much thought of damage to the metal. Sheets, plates, castings, and other fabrications of copper, brass, magnesium, aluminum and other non-ferrous metals or alloys must of necessity be treated with care to avoid damage. The effects of strong alkalies on aluminum are well known. Obviously,

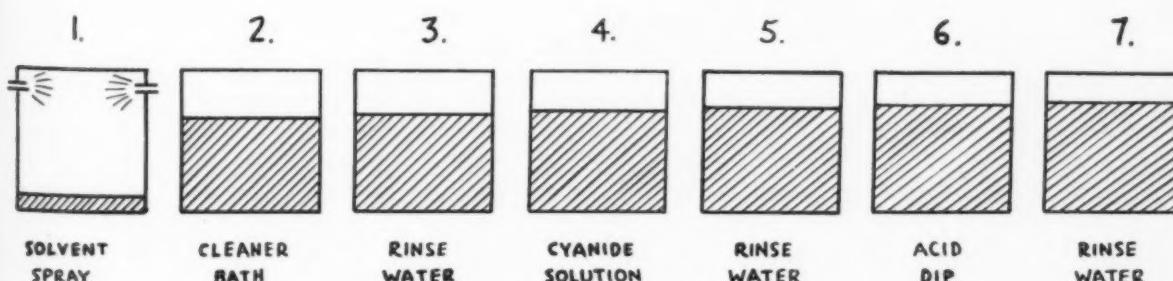
cleaning of this metal and its alloys must be by other means. Thus, the wide increase in the fabrication of aluminum, magnesium and their alloys has been an important factor in stimulating the wider use of solvent cleaning and the use of the various synthetic detergents, and to some extent the emulsion type cleaners, none of which cause any deterioration in the metal.

ALTHOUGH there are innumerable specifications for metal cleaning compounds,—some of the government departments have them, the large automobile manufacturers, leading steel, brass and aluminum fabricators, manufacturers of arms and ammunition, most have their own,—there are a few general compositions of interest. For example, one alkali cleaner which seems to have quite wide use and to be duplicated in approximate formula by different makers is composed of soda ash, 32 per cent; tri-sodium phosphate, 48 per cent; caustic soda, 10 per cent; and rosin soap, 10 per cent. This is used in a six per cent solution at 212° F. either with electrolytic equipment or with simple agitation. In the latter case, however, the cleaning process is extremely slow, requiring close to two hours to obtain a chemically clean surface. Another mixture noted was composed of 80 per cent caustic soda and 20 per cent rosin soap. Still another compound calls for

(Turn to Page 40)

A TYPICAL metal cleaning sequence for copper and brass products for treatment after fabrication and prior to plating. First stage (1) is dipping or spraying with solvent for grease removal. The metal parts then go to the cleaning tank (2) containing about five per cent hot solution of alkali cleaning compounds, and then to rinse tank (3) containing water. They then go to tank (4) containing solution of sodium cyanide for

removal of remaining oxides and sulfides, and to a water rinse tank (5). The next tank (6) is a so-called acid bright dip, followed by another rinse with water (7). The total time through the seven steps of this process approximates five to six minutes. Manufacturers of some of the newer metal cleaning products claim that they can eliminate the cyanide and bright dip steps and cut this time to two minutes or under.



**THE WAY
IT LOOKS IN**



Washington

by

C. H. JENKINS

A SERIES of new amendments to FDO-42, the order covering use of fats and oils, new and thoroughly confusing orders on containers (P-146, amended P-140, and amended L-137) release of lanolin for soaps and cosmetics, relaxation of restrictions on civilian use of glycerine and permission to advance price ceilings on certain packaged shaving soaps and shampoos were the highlights of the month for soap makers in the changing Washington picture. To judge by the early reaction there is probably more concern and confusion expressed over the new container orders than over anything that has come out of Washington in a long time. No one seems quite sure yet as to just how these new orders are to be interpreted, and interpretations are even found to vary between Washington and local district offices of WPB. There seems to be definite agreement, however, that the container situation is very serious, and that it presents the toughest problem that has faced the soap industry so far.

In amended FDO-42 the most important change affecting soap makers is the new permission granted them to divert up to 250,000 pounds of fats and oils in any quarter (or any lesser amount to which the soap maker's quota will entitle him) from one class of soap to another, provided the overall quota is not exceeded. Another easing of former quota restrictions is granted to users of linseed oil foots. Only 50 per cent of the linseed foots used by the soap maker is to be charged against his oil and fat quota.

Another change in amended FDO-42 is the redefinition of "abrasive hand soaps," which are now defined as soaps which "on a moisture free basis" contain not less than 10 per cent or more than 40 per cent anhydrous soap and not less than 25 per cent abrasive material. It is only to soaps covered by this definition that the 110 per cent quota applies.

Another late new development this period in the fat and oil picture is the removal of distilled red oil from allocation. Saponified red oil was taken off allocation several months ago. The order releasing distilled oil will be released very shortly.

Lanolin has become available once more, in strictly limited quantity, for soap and cosmetic use. For the first time since FDO-76 became effective in September, 1943, controlling allocation of wool grease and lanolin, a limited quantity was set aside by the WFA in March for use in cosmetics, toilet soaps, shaving creams, hand lotions, after shaving lotions, hair dressings, etc.

Several other changes in fat and oil controls were effected by the new amendments last month to the fish oil order, FDO-60. The use of fish oils in metallic soaps is now restricted to water insoluble metallic soaps. Each user of fish oil (including makers of water soluble soaps) if he used more

than 4,000 lbs. of fish oil in the base period, 1942, is required to report the amount thus used. Such reports were to have been made by April 1.

At this writing lard and rendered pork fat still remain on the unrationed list, and soap makers are free to use both materials without surrendering ration points. The future stock position, will of course, determine how long the WFA will be able to keep these materials on an unrationed basis.

THE new containers orders are probably not so complicated as most users believe them to be. As a matter of fact, they are reported to result from WPB's intention to "simplify" the problem of container supplies. The overall order L-317, just issued, limits certain container users to varying percentages of base period use on a tonnage or footage basis. The quota which will apply to most manufacturers of soaps, cleaners, etc., is 80 per cent of 1942 use. Insecticide and disinfectant manufacturers, on the other hand are not subject to quota restrictions. L-317 also establishes restrictions on allowable inventories,—a 30-day supply to be the maximum permitted.

The new companion order, P-146, issued last month, sets up priority ratings for obtaining supplies of fibre shipping containers. The soap rating is AA-3, while dentifrices and shaving creams take the lowest rating of AA-5. Insecticide manufacturers have been given a general industry rating of AA-2X. The third container order, now reissued in amended form.

which interests many firms in the soap and sanitary products field, is P-140, governing priority ratings for obtaining supplies of wooden shipping containers.

Notwithstanding the WPB's claimed intention of clarifying the container picture, container users have without question been confused to judge by the many false interpretations of the new orders and the volume of inquiries addressed to us and to trade association offices. The following clarifying advice was included in a recent bulletin released by the Association of American Soap & Glycerine Producers:

If any maker of "soap" with his AA-3 rating under P-146 (or any maker of "shaving creams and soaps" with his AA-5 rating under that order) is unable to get needed fiber shipping containers, the procedure for him to follow will be approximately as follows:

(A) Have the container manufacturer who is unable to supply you on a properly rated order by the date on which you need the containers, state this to you in writing. If the container manufacturer's inability to supply you is based in turn on the failure of a paper mill to supply him in time with containerboard, then try if possible to have him secure in writing the denial by the mill of his order for shipment (before the specified date) of the necessary containerboard.

(B) When you have this information as specifically as possible, include it as part of an appeal to be made by you to the Container Division, War Production Board, Washington, D. C., attention Mr. Philip Paul. In your appeal you must be specific as to the number, size, etc. of the containers you require; the dates when needed; the date when your order was placed; the products for which the containers are to be used; what inventory of containers you have on hand; what your rate of use of such containers is; and any other pertinent information which will show your need and the steps you have taken to meet it.

The National Association of Insecticide & Disinfectant Manufacturers has advised its members as follows:

We receive so many inquiries in regard to new orders P-140 and P-146 as to what rating insecticide manufacturers may use that we brought the entire matter up for review with the War Production Board in Washington.

War Production Board at first believed it might be necessary to issue an amendment to clarify the order.

However, we have been informed, verbally, by the War Production Board that insecticide manufacturers have a blanket MRO rating AA-1, which gives them a rating of AA-2X for obtaining fiber shipping containers.

Therefore, it is not necessary, according to WPB, for any insecticide manufacturer—not even small companies—to apply for a rating. The insecticide manufacturer simply fills in the certificate (as required by paragraph (v) in Order P-146) by inserting the letter "M" in the blank space, and assigns himself rating of AA-2X. (By inserting the letter "M" your reference is to paragraph (m) *Catch-all Ratings* in Order P-146).

We call to your attention the fact that if a firm has a Production Rating (CMP) it may use that since under that rating it would have a rating of AA-2.

War Production Board informs us that the same method applies to P-140 Wooden Shipping Containers as indicated for fiber shipping containers.

TURNING once more to L-317, it may be helpful for soap makers to have some of the background which preceded issuance of this order. Several weeks ago an industry committee presented a report to Dr. C. W. Lenth, of the WFA recommending certain formulas for economizing on industry use of fiber shipping containers. For the full text of this report see page 38 of this issue. This report became part of the WFA recommendation on use of shipping containers by its particular group of industries. When the final decision on container use was made by the Clearance Committee of WPB, however, the WFA recommendations were rejected, and soap makers were cut to 80% of 1942 usage on a tonnage or footage basis, whichever is smaller.

Going further into the background of this situation, it must be borne in mind that the soap industry began very early to reduce its use of fibre board. It must be kept in mind, too, that soap makers' fat and oil quotas are based on the 1940-41 average, while their future allocations of containers are to be but 80% of 1942 purchases, a year when soap production was off perhaps 6% from the 1940-41 average. A soap company which made on a voluntary basis in 1942, anything resembling its maximum contribution to economy in use

of fibre board, is obviously going to be hard put over the balance of 1944 to get by on 80% of 1942 usage.

The situation is made more difficult by the fact that today container board is more weighted with filler, and the tonnage limitation will thus hit more severely. Concerns having substantial inventories of small size containers will also feel the effect of the new order more sharply, because in using up these containers they will exhaust their quotas more rapidly while packing less soap.

It has been indicated, unofficially however, that Washington recognizes that the industry has a case calling for special consideration, and some leniency may be anticipated in the form of exceptions and hardship appeals. There is no desire, it is stated, for the soap industry to reduce its production rate. The new orders will simply have the effect of forcing individual appeals, which are believed to have a good prospect of being granted providing the appealing companies are in fact effecting the maximum possible economies in their use of container board. It is believed that adherence to the standard packs referred to in Dr. Lenth's report might well serve to lend the support of the WFA office to such appeals as may become necessary.

ANOTHER important development this month was the announcement by WFA March 22, that its restrictions on the use of glycerine for civilian needs (covered by FDO-34) would be temporarily suspended. The suspension will continue through April, May and June. Reporting requirements of FDO-34 remain unchanged and users must continue to submit monthly statements. As the explanation for its action, the WFA cites the sharply increased production of fats due to the unprecedented number of hogs which came to market in the early months of this year. WFA warned, however, that the temporary relaxation of its order should not be interpreted as meaning that there is no further need for salvaged kitchen fats. Requirements for hard

Minimum Pack Standards for Soaps Recommended By WFA

THE following recommendations concerning packaging of soaps and cleaners were made by Dr. C. Lenth, chief of WFA'S Soap and Glycerine Division to WPB for its consideration in the revision of WPB Order L-317. The decision of WPB rejected the WFA recommendation and instead imposed quota limitations on use of container board in soap packaging. The WFA recommendations, though not accepted by WPB, are reproduced here for the record only.

Packaged heavy duty laundry chips, flakes, and granules (of the type of such products as R'ns, Oxydol, Supersuds, Chipso flakes and granules, Selox, Duz, American Family Flakes, White King granulated, Magic Washer, Fels Naptha Chips, etc.)

Packaged fine fabric soaps (of the type of such products as Lux, Ivory Flakes, Ivory Snow, Dreft, Klek, etc.)

Bar laundry soap (white & yellow and all other)

Packaged washing powder

Scouring powder

Bar toilet soap; and floating soap 5 ounces or less

Floating soap over 5 ounces

Minimum pack of soap per case

Not less than 52 pounds gross shipping weight, or as an alternative 1½ times the number of cartons each manufacturer now packs (as a standard matter) per shipping container

Not less than 30 pounds gross shipping weight, or as an alternative 1½ times the number of cartons each manufacturer now packs (as a standard matter) per shipping container

Not less than 52 pounds gross shipping weight

Not less than 52 pounds gross shipping weight

48 units (cans or cartons) or 38 pounds gross shipping weight

Not less than 75% of each manufacturer's total production of all brands and sizes by weight to be packed in the largest standard packs now used by him for each brand and brand size, and the remainder to be packed in not less than the next largest standard packs he now uses for each brand and brand size

Not less than 80% of each manufacturer's total production of all brands and sizes by weight to be packed in the largest standard packs now used by him for each brand and brand size, and the remainder to be packed in not less than the next largest standard packs he now uses for each brand and brand size

NOTE 1: It was pointed out by the task group (of the Soap Industry Advisory Committee) that one or two manufacturers packaged bar laundry soap and packaged washing powder in slightly under the 52 pounds specified, but it was believed that since the majority of the producers can package their products at 52 pounds or greater that no lower limit should be set. However, in some instances the increase from 51 pounds to 52 pounds may result in greater use of containerboard, and it was recommended that this fact be recognized as a basis for appeal.

NOTE 2: The task group pointed out that, as in the case of laundry soap and washing powder, a few other cases may develop where conversion to the minimum pack standard will result in a greater weight of containerboard consumption, and the committee recommended that this be considered as a basis for appeal on individual hardship cases.

NOTE 3: The recommendation on scouring powder represents the consensus of the task group, but as a substantial percentage of the scouring production was not represented on the task group, the group suggested that their proposal be submitted to scouring powder manufacturers for their concurrence. It was doubted that any serious criticism would be raised on this standard on the basis of the committee's check of the packs of most of the companies concerned. It should be mentioned that the board saving indicated does not include any saving on the packaging of scouring powder, except for two or three companies represented on the task group. Consequently, it is probable that some additional saving will be forthcoming as a result of this standard.

fats of this type are said to be just as heavy as ever.

Another development of interest this period was the action of the WPB in putting pine oil under full allocation control. This action was taken through issuance of Order M-365 on April 1. The WPB estimates that pine oil production faces a 15 to 20 per cent cut because of manpower shortage. The allocation move was made to equalize distribution.

Benzaldehyde was placed on allocation by WPB, beginning April 1. On future deliveries written authorization of WPB will be necessary. Control of titanium dioxide, which was to have been terminated automatically at the end of February, has been extended indefinitely. Non-military orders rated below AA-2 may still be filled as unrated orders.

On the price front the OPA has indicated that it will consider petitions for price increases on packaged shaving soaps and liquid shampoos. Such increases are possible where long term agreements exist, and where all or substantially all of the maker's output is sold to a single distributor who markets the product. The OPA has indicated that it will authorize increases to bring the current return to the manufacturer up to the level of the average annual return for the 1936-1941 period.

Another OPA ruling issued last month fixed maximum prices on the resale of insecticide sprayers by Gulf Oil Corp. to its jobbers and retailers. The sprayer in question is made by the American Specialty Co. of Amherst, Ohio, and is designated as the "Gulf Sprayer." A retail price of 55c per unit has been allowed. On sales to retailers and jobbers the authorized range is \$3.86 to \$4.58 per dozen.

Salesmen Hear H. L. Derby

Harry L. Derby, president of American Cyanamid & Chemical Corp., New York, was the guest speaker at a luncheon sponsored by the Salesmen's Association of the American Chemical Industry, Mar. 30, at the Midtown House, New York. Mr. Derby was scheduled to speak on "Post-War Sales."

Revise Army Specifications for

ALL-PURPOSE SOAP

A REVISED specification covering Soft, Hard or Sea Water Toilet Soap (commonly referred to in the trade as the specification for "all-purpose" soap) was recently issued by the Office of the Quartermaster General, Army Service Forces. Designated as OQMG No. 100A, this new specification supersedes OQMG No. 100. It differs from the previous specification in that (1) it provides for 10% minimum and 30% maximum coconut oil in the soap stock, (2) it places a definite maximum limit on the foaming and wetting type of synthetic detergent, (3) it provides for a Grade A product which is to be as salt-free as possible (maximum 10% inorganic salt) and for a Grade B product with 20% maximum inorganic salt (specification provides that the Grade B product will be procured only when an insufficient quantity of Grade A is available), (4) it provides for both 2-oz. and 4-oz. bars (5) it deletes the former standard swatch performance test as a mandatory testing procedure, and (6) it provides for inclusion in the "all-purpose" soap of organic oxidation inhibitors to stabilize the product.

The following sections from the official specification cover types and grades, as well as general and detailed requirements:

B. TYPES AND GRADES

B-1. Soap, toilet, for use in soft, hard or sea water, shall be of the types and grades specified below. Each type and grade shall meet all the performance and other requirements.

Type I—Framed and stamped bar:

Grade A—Shall contain not more than 10 per cent total inorganic salt;

Grade B—Shall contain not more than 20 per cent total inorganic salt.

Type II—Milled bar:

Grade A—Shall contain not more than 10 per cent total inorganic salt.

Grade B—Shall contain not more than 20 per cent total inorganic salt.

D. GENERAL REQUIREMENTS

D-1. General.

D-1a. Shall be a well-made, homogeneous product within the composition limits specified herein; shall be in bar form of either 2-oz. or 4-oz. weight. Product shall be capable of rendering satisfactory performance in water of any degree hardness from zero to hardness equivalent to sea water, at any temperature between 5°C. and 50°C., for the following uses:

D-1a(1) General purpose toilet soap and shampoo.

D-1a(2) Mess kit and similar equipment cleansing.

D-1a(3) Manual laundering of clothes.

D-1a(4) Shaving soap.

D-1b.—The soap shall be high quality sodium soap made from fats, oils, fatty acids, or mixture thereof, and the stock shall contain a minimum of 10 per cent and a maximum of 30 per cent coconut oil. Soap shall contain no more glycerol, based on anhydrous soap content, than consistent with the Food Distribution Administration requirements for commercial soaps at time of issuing bids. Soap shall have an odor and color characteristic of high quality soap stock.

D-2. Odor.—Shall not have an objectionable odor at time of delivery or during use; shall contain sufficient mild perfume to just mask the characteristic odor of the unperfumed product and give the product a bland, neutral odor; shall be similar to approved sample.

D-3. Appearance.—The bar shall have a uniform tan color similar to approved sample. Coloring matter used shall not impart color to items washed with the finished bar.

D-4. Consistency.—Shall be a firm, non-crumbly bar without evidence of being unduly sticky or abrasive, either initially or during use; shall not be unduly hygroscopic to ex-

tent of excessive softening or wasting during use.

D-5. Solubility and Sudsing.

Product shall be capable of making a solution or finely divided dispersion in soft, hard or sea water; shall yield a minimum of 50 ml. suds when a 1 per cent concentration in soft, hard or sea water is tested as indicated in F-4.

D-6. Soil Removal from Skin.

Shall remove the grease from skin in one washing, as indicated in F-5, in water of any hardness from zero to hardness equivalent to sea water, when tested at 20°C.; shall easily rinse from skin; shall not leave a disagreeable feel to the skin.

D-7. Bid Samples.

Twenty-four bars of each size manufacturer proposes to furnish on contract shall be furnished Research & Development Branch, Military Planning Division, O.Q.M.G., free of expense or obligation, at time bid is made, for the purpose of determining compliance with the specification, other than packing, packaging and marking; a similar amount may be required by the Procuring Depot.

D-8. Dermatitis Test.

Fifty human test subjects will be used, and each will be patch-tested with the following:

1 cc of a 0.25 per cent concentration of soap in distilled water will be absorbed into a 1-inch square test patch consisting of 4 layers of white cotton muslin. These pieces, while wet, will be applied to the inner surfaces of the forearm and covered over by an occlusive protective coat which will prevent the evaporation of water. The tests will be worn for a period of 48 hours with interpretation of the irritation results being made at the end of each 24-hour period. The site on which the material is used will be plainly marked, and the tests will be repeated on the same individual after a period of two weeks. Erythema or induration at the site of the patch will be considered as evidence of irritating properties in the soap. Not over 14 per cent of the test subject shall show induration, urticaria or erythematous reactions.

E. DETAIL REQUIREMENTS

E-1. Composition.—Product may be either framed bar (Type I),

or milled bar (Type II). Grade B products shall be procured only when Grade A products are not sufficiently available.

E-1a. The following organic detergents may be used in soap, toilet, soft, hard or sea water: Nacconol HG, HGW or NRSF (National Aniline Division, Allied Chemical & Dye Corp.), Santomerse (Monsanto Chemical Co.), "No. 92" (General Dyestuff Corp.), and MP 646 (Dupont Co.). A minimum of 15 per cent total of these products (anhydrous, salt-free basis) shall be used.

E-1b. The following wetting and foaming agents may be used up to a maximum amount of 10 per cent total of these products (anhydrous, salt-free basis): Ultrawet (Atlantic Refining Co.), and MP 634 (Dupont Co.).

E-2. Computation.—The percentage of matter volatile at 105°C. shall be on basis of sample taken at point of manufacture at time of packing. The percentages of all other constituents shall be calculated and reported on an assumed volatile matter content as follows:

Type I (framed)	22.0%
Type II (milled)	10.0%

E-3. Basis of Purchase.—Shall be specified for each type. For material which conforms with all requirements, the net weight of the material to be paid for shall be calculated as follows:

E-3a. Type I (framed).—If more than 25.0 per cent volatile matter at 105°C., material shall be rejected without further test; if 25 per cent or less, settlement shall be made on basis of product containing 22.0 per cent volatile matter.

$$R X (100 - L)$$

$$W = \frac{78}{R}$$

E-3b. Type II (milled).—If more than 12.0 per cent volatile matter at 105°C., material shall be rejected without further test; if 12.0 per cent or less, settlement shall be made on basis of product containing 10.0 per cent volatile matter.

$$R X (100 - L)$$

$$W = \frac{90}{R}$$

Where: W = Net weight of material to be paid for
R = Net Weight of material at point of manufacture
L = Percentage moisture and volatile matter at 105°C.

E-4. Composition

	Percent by Weight	Minimun	Maximum
Total organic detergent & foaming agent (anhydrous, salt-free)	25.0	35.0	

Soda Soap, Anhydrous	25.0
Moisture and matter volatile at 105°C. (Type I)	25.0
Moisture and matter volatile at 105°C. (Type II)	12.0
Inorganic Salts (Grade A)	10.0
Inorganic Salts (Grade B)	20.0
Alkaline Salts, calculated as Na_2CO_3 - Na_2SiO_3	0.3
Sodium Silicate, calculated as Na_2SiO_3	1.5
Free alkali, calculated as NaOH	0.1
Free Acid, calculated as $\text{C}_n\text{H}_m\text{COOH}$	0.2
Unsaponifiable matter	2.5
Matter insoluble in water	1.0
Rosin, calculated as $\text{C}_n\text{H}_m\text{COONa}$	2.0
Sugar	None
Perfume	To match approved sample.
Organic oxidation inhibitor*	0.05

* Approved organic oxidation inhibitors are:

- (a) diphenylamine
- (b) ortho biphenyl biguanidine (Monsanto 326)
- (c) para tertiary butyl phenol
- (d) para tertiary amyl phenol
- (e) "Iphol" (Colgate-Palmolive-Peet Co.)

METAL CLEANERS

(From Page 35)

75 per cent sodium metasilicate and 25 per cent soda ash. To these may be added several hundred other similar mixtures.

Combinations of the synthetic detergents,—the latter being the various non-soap organic compounds having wetting and detergent properties such as fatty acid amides, sulfated fatty alcohols, alkyl aryl sulfonates, esters of sulfosuccinates, etc.,—are expanding rapidly in metal cleaning processes. They are usually used in combination with alkaline salts. In hard water or in acid media, they lose none of their effectiveness. As such, the synthetic detergents are safe to use on any metal and are particularly suitable for cleaning aluminum, magnesium and brass. In preparation of materials for electroplating where carry-over of the cleaning solution into the acid plating bath might occur,

these newer materials find no drawbacks of other materials. The present chief obstacle to their wider use in metal cleaning is high price, but with larger production and expanded consumption in the post-war market, the cost is expected to drop materially.

A TYPE of metal cleaner which may not be generally classified as such by those catering principally to the needs of metal fabricators is the coal-tar emulsion product. These find only limited use in cleaning new metal sheets or parts prior to fabricating, plating, etc. As commonly used, they do not give a chemically clean surface. However, in the present wide activity in the armed forces and in industry in repairing every type of mechanical equipment, they have some interest. Especially in preparation for repairing or refabricating dirty metal parts such as airplane bodies, wings, and engines, truck parts and engines, and any sort of greasy equipment, they are effective. These cleaners are usually a coal-tar oil, tar acid oil, creosote oil, or the like in combination with rosin soap, the latter making up from one-third to one-half of the product. In use, the coal-tar cleaner is dissolved in some petroleum solvent, usually kerosene. This is painted on, sprayed on, or the surface scrubbed. The solution is washed off by hosing with hot or cold water, or by immersion, the cleaner plus kerosene readily emulsifying in the process. Their effectiveness of course lies only in removing grease and soil, not having any particular use in removal of rust or scale. For similar purposes, sulfonated oils and sulfonated petroleum residues also are finding new uses in the expanding field of cleaning metal surfaces.

A film of a hot solution comprising water and about 1-10 per cent as much of the reaction product of a fatty acid such as oleic, and dimethylamine, monoethylamine, dimethylamine or morpholine, is applied to the floor and allowed to penetrate the dried wax film for about 3 minutes. The floor is then scrubbed lightly to loosen the wax, which is then removed from the floor together with the solution. A. E. Budner. U. S. Patent No. 2,327,495.

Soap 4th Quarter Fat Use Up

USE of fats and oils by the soap industry reached a peak for the year in the fourth quarter, according to figures just released by the U. S. Bureau of the Census. The total consumption of primary vegetable and animal fats and oils amounted to 468,359,000 lbs., as compared with 431,362,000 lbs. in the third quarter, 388,565,000 lbs. in the second quarter, and 415,711,000 lbs. in the first quarter. Total consumption of fats and oils during the full year, 1943, amounted to 1,703,994,000 lbs., which compared with the record figure of 2,143,857,000 lbs. in 1941 and 1,871,039,000 lbs. in 1942. The above figures do not take into account the additional quantities of foots, fatty acids, rosin, tall oil, extenders, etc., now finding increased use in soap formulas.

The most important change in the soap kettle raw material charge, on the basis of fourth quarter fat consumption figures, is the sharply increased amount of lard being used. During the final quarter of the year 55,954,000 lbs. of lard were used in soap making,—this comparing with 18,085,000 lbs. of lard in the third quarter, and none in previous quarters. With this one exception there were no changes of any importance in the general trend of soap raw materials. Tallow and grease continue to be the most important soap making fats, with 205,745,000 lbs. of inedible tallow and 125,075,000 lbs. of grease being used in soaps in the fourth quarter. Soapers consumed 29,140,000 lbs. of coconut oil in the fourth quarter which was only slightly under the average level of use for the first three quarters of the year. Complete totals on use of primary fats and oils by soapers during the fourth quarter are shown in the following table. Fat consumption data for the past five-year period is shown in table at the right. Figures are given in thousands of pounds.

Cottonseed, crude	133
Cottonseed, refined	57
Peanut, crude or virgin	70

Tallow, edible	3,723
Tallow, inedible	205,745
Neat's-foot oil	1
FISH AND MARINE OILS:	
Fish oil	10,088
GREASES:	
Greases, other than wool	125,075
— • —	
Container Re-Use Test Starts	
Marketers of bar and packaged soaps in the Chicago area are just getting under way with their container re-use program, arrangements for which have been completed by the Association of American Soap and Glycerine Producers. The test campaign will be carried out only in grocery stores, not in drug or other retail markets, and will include bar soaps, both laundry and toilet, and packaged soaps and cleansers. The re-use plan has been held up waiting for the OPA to issue an anticipated price ceiling schedule for used containers. After a considerable delay this OPA schedule has still not been issued, and the soap makers have finally decided to start their program without waiting further.	
Peanut, refined	12
Coconut, crude	29,140
Coconut, refined	13,432
Corn, crude	149
Corn, refined	158
Soybean, crude	549
Soybean, refined	696
Olive, edible	2
Olive, inedible	128
Olive, sulphur oil or olive foots	1,049
Palm kernel, crude .....	...
Palm kernel, refined	137
Palm, crude	10,974
Palm refined	846
Babassu, crude	5,713
Babassu, refined	1,783
Linseed	443
Castor No. 1, crude	768
Castor No. 3, crude	81
Castor, dehydrated	3
Castor, sulphonated	107
Sesame	2
Other vegetable	188
ANIMAL FATS:	
Lard	55,954
Stearin, animal	255
Oleo oil	898

FACTORY CONSUMPTION OF ANIMAL AND VEGETABLE FATS AND OILS IN THE MANUFACTURE OF SOAP

Source: U. S. Department of Commerce, Bureau of the Census
(Quantities in thousands of pounds)

KIND	1938	1939	1940	1941	1942	1943 (Preliminary)
Cotton oil	2,883	1,061	2,971	3,010	2,863	991
Peanut oil	545	805	387	597	485	256
Coconut oil	342,982	388,912	398,857	484,124	140,487	142,346
Corn oil	2,514	4,441	3,638	4,948	4,102	833
Soybean oil	10,897	11,177	17,612	24,737	31,510	15,428
Olive edible	31	54	130	84	27	11
Olive ined..	1,299	1,439	1,637	555	365	499
Olive foots	15,013	19,068	14,948	10,029	4,823	4,987
Palm oil	91,642	102,146	84,934	129,871	55,865	32,621
Palm kernel	29,498	3,657	197	1,113	1,028	1,840
Rapeseed oil	55	2	49	5	...	1
Linseed oil	1,455	1,780	1,489	2,278	4,019	1,697
Tung oil .....	...	...	...	...	...	...
Perilla oil .....	...	1	...	...	...	...
Castor oil	1,810	946	1,225	1,976	7,949	1,091
Sesame oil	302	14	38	304	189	65
Babassu oil	8,289	37,633	41,221	29,753	19,105	25,814
Other veg..	14,031	7,364	2,051	1,162	2,487	675
Lard	1	50	645	89	96	74,039
Stearin	240	278	549	70	483	275
Oleo oil	119	67	127	189	205	2,160
Tallow, ed..	332	418	657	4,826	634	4,652
Tallow ined	702,267	785,041	786,456	1,057,303	1,188,923	884,862
Grease	96,356	120,856	256,886	310,487	338,974	463,811
Neat's foot	20	11	19	35	19	68
Marine oils	66,080	51,522	19,250	6,889	21,989	284
Fish oils	79,874	114,961	88,661	69,423	50,412	44,688
Total	1,468,535	1,653,704	1,722,634	2,143,857	1,871,039	1,703,994
Foots	235,562	177,221	147,072	188,651	89,010*	—
	1,704,097	1,830,925	1,869,706	2,332,508	1,960,049	—

* Figures for last two quarters 1942 not given.

TURNER CHEMICALS

CAUSTIC SODA
PERSULPHATE OF POTASH
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JOSEPH TURNER & COMPANY

RIDGEFIELD, NEW JERSEY

83 Exchange Place, Providence

40th St. and Calumet Ave., Chicago 15

TRADE**NEWS... . . .****W. H. White Forms Supply Firm**

William H. White, formerly northern California district manager for the industrial division of Scott Paper Co., Chester, Pa., and more recently a representative for Wyandotte Chemical Corp., Wyandotte, Mich., has set up his own firm, Commodity Sales Co., Oakland, Calif., to act as sales representative for lines of cleaning materials, chemicals, industrial supplies, etc. Mr. White is concentrating his efforts in the northern and central California areas.

Armour Promotes "Chiffon" Flakes

Armour & Co. have announced a campaign to promote the sale of their "Chiffon," white milled soap flakes, beginning Mar. 23 in New York and Chicago newspapers and later scheduled for subway car cards and radio programs. "Chiffon" is not a new product, according to an Armour spokesman, but is something that up until the present was not felt to be in a position to compete with the heavily advertised and promoted "Lux" and "Ivory" flakes. However, over the past few months scarcity of these two large selling soap flakes in certain localities has given the available "Chiffon" brand soap flakes a suddenly expanded distribution, on which Armour is now attempting to capitalize. For the present the company is planning to promote "Chiffon" in the metropolitan New York and Chicago areas with advertising concentrated there. "Chiffon" flakes retail for around 23 cents, fourteen ounces to a box.

activities, will be succeeded by John P. Remensnyder, assistant vice-president of the corporation, and assistant to Mr. Simon for several years.



Howard Young, Lt., jg., U.S.N.R., formerly with Davies-Young Soap Co., Dayton, O., is now stationed in the Pacific theater of war. He is a brother of Russell Young, president of Davies-Young Soap Co., and chairman of the Potash Soap Section of The Association of American Soap and Glycerine Producers.

Oil Chemists to Hear Walsh

Robert M. Walsh, principal agricultural economist in the division of Statistical and Historical Research of the U. S. Dept. of Agriculture, will be one of the speakers at the 35th annual meeting of the American Oil Chemists' Society to be held May 10 to 12, in New Orleans. Mr. Walsh, who is editor of *The Fats and Oils Situation*, will deliver a paper on the economics of fats and oils. In addition to general papers, there will be a symposium on the physical properties of fats and oils which will include papers on X-ray and ultra-violet spectroscopy, specific and latent heats, viscosity and plasticity, and the practical application of physical methods of processing including liquid-liquid extraction and continuous solidification of lubricating grease.

Simon, Heyden V. P., Retires

George Simon, for many years associated with Heyden Chemical Corp., New York, and its predecessors as vice-president and treasurer, has retired effective April 1. Mr. Simon, who was in charge of Heyden sales

Start Container Re-use Test

Majestic Trading Corp. of Chicago has been named by the Association of American Soap and Glycerine Producers to conduct the container re-use test which is currently getting under way in the Chicago area. The firm will repurchase usable shipping containers and return them at cost to original users. If the program proves successful in this test campaign, it is planned to extend it promptly to other areas. All manufacturers of bar or packaged soap or cleanser who ship into the Chicago area are invited to participate in the test. The only requirement is that containers must be spot or strip sealed as it is not believed practical to attempt to reclaim containers which have fully sealed flaps.

P & G Block "Carnee" Registration

Opposition of Procter & Gamble Co., Cincinnati, owner of the trade mark "Camay," registered Jan. 4, 1927, for toilet and bath soap, to the application of the Dill Co., Norristown, Pa., for registration of the word "Carnee" as a trade mark for liquid shampoo soap has been sustained by Commissioner Frazer of the U. S. Patent Office, affirming the prior action of the Examiner of Interferences. The view was held that although the words "Camay" and "Carnee" differ in appearance, nevertheless, when pronounced they are very nearly alike; in fact, they may be spoken so as to sound substantially identical, and, moreover, both appear to be fanciful terms having no significance other than as trade marks.

NWDA Appoints Hawes V. P.

The National Wholesale Drugists' Association has appointed Peyton Hawes, vice-president and manager of the Portland, Ore., division of McKesson & Robbins, Inc., as first vice-president to succeed the late Harlan E. Brown.

*These
G.I. SHOES
Can Take It*



What's that got to do with the shortage of Lanolin, Degrás and Wool Grease for the home front? PLENTY!

Our soldiers' shoes can take it because they are made from top grade leathers that have been stuffed and waterproofed with wool grease to withstand mud, water and snow.

Today Lanolin and all grades of Wool Grease are on strict government allocation. As victory moves closer, the day approaches when America's largest selling brand of Lanolin, Degrás and Wool Grease, the famous Nimeco brand, will be available to all.

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DEGRAS • Neutral and Common • Wool Greases

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Report on Soap Survey

THE biggest difficulty American housewives are currently having in attempting to buy soap products is shortage of dealer stocks, according to a recent survey on buying habits conducted by Home Makers Guild of America for Owens-Illinois Glass Co., Toledo. According to the survey, 77.7 per cent of the women interviewed reported that they had experienced such difficulty in shopping for specific soap brands recently. To the companion question: "What have you done when you experienced difficulty in securing . . . (Soap Products)?" the following answers were given: 16.9 per cent substituted another product, 50.1 per cent used another brand, 5.8 per cent (lowest for any group of products) went without, 27.2 per cent found the desired product in another store.

The next question was: "What do you now consider a normal supply of the following commodities (laundry soap—bar, laundry soap—package, toilet soap and cosmetics) for your household?" For laundry soap—bar, 17.9 per cent considered a one week's supply as normal, 33.6 per cent said two weeks, 35.1 per cent said one month and 13.1 per cent said two months; for laundry soap—package, 22.3 per cent said one week, 37.2 per cent said two weeks, 30.9 per cent said three weeks and 9.6 per cent said two months; for toilet soap, 13.7 per cent said one week, 28.6 per cent said two weeks, 38.8 per cent said one month and 18.9 per cent said two months; for cosmetics, 1.6 per cent said one week, 1.3 per cent said two weeks, 18.0 per cent said one month and 79.1 per cent said two months. In the light of the foregoing information, the following question was asked: "Can you now (September 1943) buy in sufficient quantities to maintain the inventory you have checked above? On laundry soap—bar, 84.6 per cent replied yes, 15.4 per cent said no; on laundry soap—package, 80.2 per cent replied yes, 19.8 per cent said no; on toilet soap 94.9 per cent replied yes, 5.1 per cent said no,

and on cosmetics, 98.3 per cent replied yes, 1.7 per cent said no.

In another test on "Conservation and Food Waste," it was revealed that of the women questioned, 52.2 per cent turn in their waste fats for salvage purposes, 45.2 per cent reuse for cooking and 2.6 per cent reuse for making soap.

In a third questionnaire on "Household Problems," home makers were asked about wartime living and its effects on the women in the home. As to laundering, 61.5 per cent do their own, 27.5 per cent send part to the laundry, 7.6 per cent have laundry woman and 3.4 per cent send it all to the laundry. 94.2 per cent of the consumers quizzed said "yes" to the question: Would you like special hints on how to get the best results on laundry work while 5.8 per cent said "no." In a similar vein, to the question: "Would you like special hints on how to best care for clothes to be laundered?" the following responses were elicited: 94.2 per cent "yes," 5.8 per cent "no."

What particular laundry items are most difficult to obtain can be seen from the following classifications and percentages given in answer to the question, "If you have experienced some difficulty in securing laundry supplies, please check those items hardest to get:" soap powders, 27.4; clothes pins, 18.9; soap chips, 15.7; bar soap 14.4; wire clothes line, 12.6; bleach, 4.1; rope clothes line, 3.5; bluing, 2.4; and starch, 1.0.

C-P-P Sales At Peak; Earnings Up

Setting a new high mark, net sales of Colgate-Palmolive-Peet Co., Jersey City, N. J., in 1943 were \$134,951,099, representing an increase of \$15,982,982 over the 1942 figure, previously high point, according to a report issued Mar 14. Net profit was \$6,616,969, or \$3.10 a share, compared with \$5,383,595, or \$2.47 a share, in 1942. Net current assets increased during 1943 and at the end of that

year were reported at \$48,387,090, \$7,887,523 above the previous year. Other changes in the balance sheet of the company were reflected in the sale of the \$3,910,388 Palmolive Building and the elimination of the \$1,987,500 debt on the building, and the application of \$2,348,786 to an employees' retirement income plan reserve.

Shulton Father's Day Promotion

Shulton, Inc., New York, has just announced the details for its sixth annual window display contest on Early American Old Spice Men's Toiletries for Father's Day. This year prizes to dealers will be in War Bonds totaling \$2,050. An extensive advertising campaign will appear in ten national magazines. The rules are the same as in previous years. There are two classifications of stores: department and specialty shops; and drug stores. Equal prizes will be awarded for each classification as follows: first prize, \$400 War Bond; second prize, \$250 War Bond, third prize; \$125 War Bond; and ten fourth prizes of \$25 each.

Grocery Mfgrs. Meet June 14-15

The mid-year meeting of the Grocery Manufacturers of America will be held at the Hotel Waldorf-Astoria on June 14 and 15, Paul S. Willis, president, announced last month. Operations of the food processing industry during the current year will be discussed.

C-P-P Ltd. V.-P. Joins Agency

Gordon H. Sloane, formerly vice-president in charge of sales for Colgate-Palmolive-Peet Co., Ltd., has joined Bache Advertising Agency, Toronto, as an account executive and merchandising director.

Rowe of Heyden Retires

Arthur H. Rowe, for nearly forty years a salesman for Heyden Chemical Corp., New York, recently retired to devote his full time to his farm in Monroe, N. Y. A luncheon in his honor was tendered Mr. Rowe recently by the officers and directors of Heyden Chemical Corp. at the Manhattan Club.

D. G. Holmes Utility Head Dies

David G. Holmes, 72, president of The Utility Co., manufacturers of "Gre-Solvent," New York died in Montclair, N. J., March 2. He was born in New York, and attended Oberlin College. Later he became secretary of the exporting firm of William E. Peck & Co. In 1903, Mr. Holmes organized The Utility Co., which engaged in the manufacture of "Gre-Solvent." The story of how this product came into being is said to arise from the fact that Mr. Holmes, one of the first car owners in the state of New Jersey, quickly sensed the need of a hand cleaner somewhat different from ordinary soap to remove the grime resulting from the numerous repairs and tire changes characteristic of the early days of the automobile. Mr. Holmes engaged in considerable philanthropic and other work of a social character, being at one time a director of the Orange (N. J.) Y.M.C.A. and at various times chairman of the Community Chest Drive of Montclair. He was an active member of the Arlington Avenue Presbyterian Church of East Orange. The Utility Co. will continue its operations under the direction of David C. Stutts, present treasurer and general manager.

Cowles Enlarges Staff

Four new members have been recently appointed to the research staff of Cowles Detergent Co., Cleveland, manufacturers of industrial alkalies, it was announced early this month in connection with the company's recently announced research expansion plan. Those named were: Dr. Frederic C. Jelen, who received his Master's degree from M.I.T. and took another from Harvard, where he received his Ph.D. in 1935. Since then, Dr. Jelen has been with Monsanto Chemical Co. and Battelle Memorial Institute, which he left to join Cowles. The second new member of the Cowles staff is R. C. Shafer, a 1939 graduate of Syracuse University, where he received his Master's degree in chemistry. Mr. Shafer was formerly with the laboratories of Sealright Co. Noel R. Phillips, who has been employed by Southland Paper Mills and R. T. Vanderbilt Co., has

just joined Cowles. The fourth appointment to the Cowles staff is John L. Biester, formerly with the research department of Standard Oil Co. of Indiana.

Reject C-P-P Wage Appeal

A request by Colgate-Palmolive-Peet Co. to increase wages for employees at its Jersey City plant was denied early this month by the National War Labor Board. This action by the NWLB in effect affirms an earlier ruling of the Second Regional War Labor Board in New York which denied increases on the ground that the present C-P-P rates are high in comparison with wage rates for comparable work in other companies in the area. Colgate employees have already received maximum adjustments under the Little Steel wage formula, the board said. The request of the company for a review of the regional board's ruling was joined in by Colgate's Employees' Association, which is said to represent 1,800 workers in the Jersey City plant.

Fisher Chemical Co. Formed

J. Robert Fisher, who resigned recently as manager of Millmaster Chemical Co., has formed his own company, Fisher Chemical Co., New York, to act as manufacturers' representative in the sale and distribution of pharmaceuticals, fine and industrial chemicals. The company has offices at 60 E. 42nd Street. Mr. Fisher has been associated with the sale of chemicals for fifteen years. He was for eleven years connected with the organic sales department of National Aniline Division of Allied Chemical & Dye Corp., resigning in 1940 to join Millmaster Chemical Co. He is chairman of the entertainment committee of the Salesmen's Association of the American Chemical Industry.

Douglas, Bourjois Head, Dies

Bernard M. Douglas, for about fifty years connected with the perfumery industry, the last twenty-seven years as an officer and director of Bourjois, Inc., and Chanel, Inc., New York, died March 16.

Hildebrandt Heads C D & C A

The Chicago Drug & Chemical Association elected the following officers and directors at its monthly luncheon and annual business meeting at the Drake Hotel, March 30: president, F. Dean Hildebrandt, former Chicago manager for Prior Chemical Co., now representative for Great Lakes Chemical Co., of Filer City, Mich.; vice-president, Harry E. Dunning, Albert Verley & Co.; secretary, Martin B. Vance, Givaudan-Delawanna, Inc.; treasurer, Edgar E. Brand, L. Sonneborn Sons, Inc.; two-year directors, James V. Murphy, Solvay Sales Corp.; Gerald F. Pauley, Monsanto Chemical Co.; Bruce Puffer, Kimble Glass Co.; Talmadge B. Tribble, Magnus, Mabee & Reynard, Inc., and one-year director, Ray Morris, Orbis Products Corp.

C-P-P Philippine Mgr. Prisoner

Lt. (j. g.) Wm. Mansfield Pearce, former Philippine Islands manager for the Colgate-Palmolive-Peet Co., is held in a Japanese internment camp, according to word received by his wife, Mrs. Helen Pearce, now a resident of Evanston, Ill. Mr. Pearce had held a commission in the Naval Reserve and entered active service a few weeks before Pearl Harbor. The brief message to Mrs. Pearce reported that his health was good.

Honored by Trafficmen

Edward C. Veit, Jr., of the traffic department of Victor Chemical Works, Chicago, has been elected secretary of the Trafficmen's Association of America.

Chicago Fat Salvage Drive

Representatives of sixty-one Illinois women's organizations, meeting in Chicago, March 6, to develop plans for extending the fat, tin and paper salvage campaigns, pledged themselves to collect 1,500,000 lbs. of used household fats per month for the balance of the year. Collections in cities will be made in a door-to-door canvass, directed by block captains. Lt. Gov. Hugh Cross, chairman of the Illinois War Council's conservation committee, was chairman of the meeting.

Giant in Harness

Of all the famous waterfalls of the world, few have presented greater challenge to the engineering mind than Niagara. Today, harnessed by men of skill and vision, it turns some of the largest power turbines in the world, sending electricity throughout a huge industrial area. This triumph is typical of the many triumphs over nature that have helped to make America as successful in war as in peace.

From the industries powered by Niagara come

chemicals, metals, foods and a host of other materials essential to the swift and efficient prosecution of the war. As one of the first chemical manufacturers in the Niagara region, and as a pioneer in the production of electro-chemical products, Niagara Alkali Company applies its long and varied experience to increasing the supplies of such products and improving the efficiency with which they are used.

CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE
CARBONATE OF POTASH • LIQUID CHLORINE



An Essential Part Of America's Great Chemical Enterprise



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195,000,000 lbs. Glycerine in 1944

Based upon the total glycerine inventory of 81 million pounds on Jan. 1, 1944 and the expectation that approximately 195 million pounds will be produced during 1944, consumption in 1944 in civilian products is expected to continue at a rate at least as high as the increased allocation during the last quarter of 1943, according to an article covering the 1943-44 glycerine situation as seen by W. A. McConlogue and C. W. Lenth and published in the current issue of the *Fats and Oils Situation*. The total quantity of glycerine allocated to civilian purchasers during 1943 amounted to slightly more than 161 million pounds, of which 133 million pounds or 76.3 per cent was actually delivered, the article states. Despite the drastic curtailment in the use of glycerine for civilian purposes of lesser essentiality, especially during the second and third quarters of 1943, the allocation for the year was slightly more than the average used during the two peace time years 1940-41. This condition, of course, resulted from increased use of glycerine to meet wartime needs for dynamite, nitroglycerine, protective coatings and other essential war requirements.

Chrystal Office Moved

Charles B. Chrystal Co., importers and grinders of minerals, clays and colors, recently moved their New York offices from 16 Hudson Street to larger quarters at 53 Park Place, corner of West Broadway. Warehouse and mills remain in Jersey City, N. J.

American Home Products Changes

The reorganization of American Home Products Corp.'s New York, advertising and public relations departments and the appointment of William M. Stedman as director of advertising and Hal W. Hazelrigg as director of public relations was reported Mar. 29. The move is in line with the corporation's policy of grouping the twenty-five subsidiaries into six operating divisions with central service departments to assist them in all phases of operation. Mr. Stedman was formerly co-

ordinator of advertising for R. H. Macy & Co., New York, while Mr. Hazelrigg was formerly Chief, National Organization Section, Office of Civilian Defense, and prior to that, assistant Sunday editor and feature writer for the *New York Herald-Tribune*.

Dow Opens Detroit Office

Dow Chemical Co., Midland, Mich., opened a new branch office in Detroit on April 1 in charge of Walter J. Truettner. Offices were established in Boston and Philadelphia earlier this year.

Advance Mint Oil Price

An increase of \$1.50 per lb. in the ceiling price for peppermint oil was authorized March 29 by the Office of Price Administration. The new prices, effective April 4, were set by OPA after the War Food Administrator recommended an increased return to growers in order to encourage greater production. The price to producers has been increased from the former level of \$5.50 to a new ceiling of \$7.00 per lb. The ceiling on sales by dealers

is now \$7.50 as against the former figure of \$6.00. The ceiling on redistilled oil has been moved up from \$6.35 to \$8.05 a lb.

Chi. Chemical Show Nov. 15-19

Sponsored by the Chicago Section of the American Chemical Society, the third Chemical Exposition will be held Nov. 15-19, at the Chicago Coliseum, it was announced late last month by M. H. Arveson, chairman of the Exposition Committee.

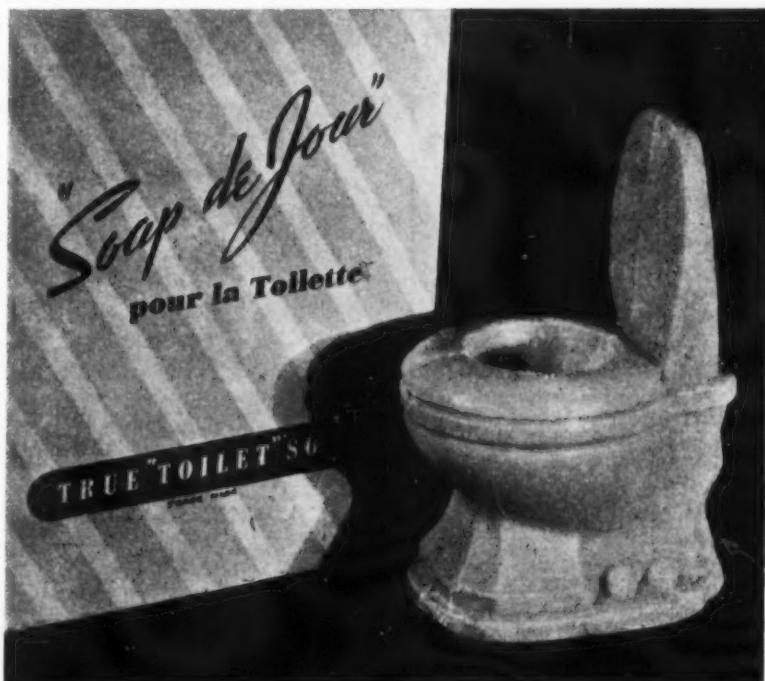
Williams Named Westvaco VP

W. N. Williams, formerly assistant to the president of Westvaco Chlorine Products Corp., New York, has been elected vice-president in charge of production. Mr. Williams joined Westvaco in 1924 and subsequently became general manager of west coast operations for the company.

Soilicide Insect Traps

Soilicide Laboratories, Montclair, N. J., recently issued two bulletins describing their traps for ants and roaches, with suggestions for their use.

A toilet soap that is a soap toilet is one of the new novelties in soap being featured in some of the F. W. Woolworth Co. stores to retail for 30c.



TRY...

DUROFIX

... IT'S GUARANTEED
TO ADD LONGER LIFE
TO YOUR PRODUCT'S FRAGRANCE



Have you obtained a copy of our handsome new PER. FUMERS' HANDBOOK and CATALOG? It is available, without cost, to bona fide perfume chemists and buyers who have control or influence over the selection and purchase of aromatic materials. Already, this 268-page reference book has been acclaimed from coast to coast for the wealth of invaluable and well organized data it contains. Address us on your letterhead mentioning this advertisement if you can use a copy advantageously.

OUR products — whether they be soaps, bath salts or other perfumed toilet preparations — derive their distinctive odor from the *combined effect* of many aromatic constituents. It is necessary to hold the more volatile of these elements in continuous and proper balance if the fragrance as originally conceived is to be preserved over a prolonged period in all its purity and delicacy. DUROFIX is an inexpensive specialty developed by our laboratories to achieve this purpose. That it does this successfully is proven by the many customers who have been using DUROFIX for years.

All the manufacturer has to do is replace about 10% of the costlier perfume base with an equal part of DUROFIX. Thus, without contributing any appreciable odor of its own, or adding to your costs, the DUROFIX tends to accentuate the odor of your product, holding its aromatic elements in proper balance, thereby enhancing and prolonging its beauty and effectiveness.

As a suggestion, therefore, why not try DUROFIX. It is safe to use, mixing readily with all essential oils and aromatic chemicals. It will not discolor, hydrolyze or saponify. Send for a sample, addressing us on your letterhead, and specifying the odor type desired.



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Alkali Cartel Charge Denied

E. V. Finch, president of the United States Alkali Export Association, Inc., New York, issued a statement, last month, denying that the association or its member firms had maintained international cartel agreements in violation of the Sherman anti-trust act as charged March 17, in Federal Court by the Department of Justice. "The affairs of the association have since 1919 been under the supervision of the Federal Trade Commission," Mr. Finch said, "and reports of all its operations have been regularly filed with that agency as required by law. The association has no illegal contracts nor is it a member of any so-called 'international cartel.' The association has had no dealings at any time with the German firm, I. G. Farbenindustrie."

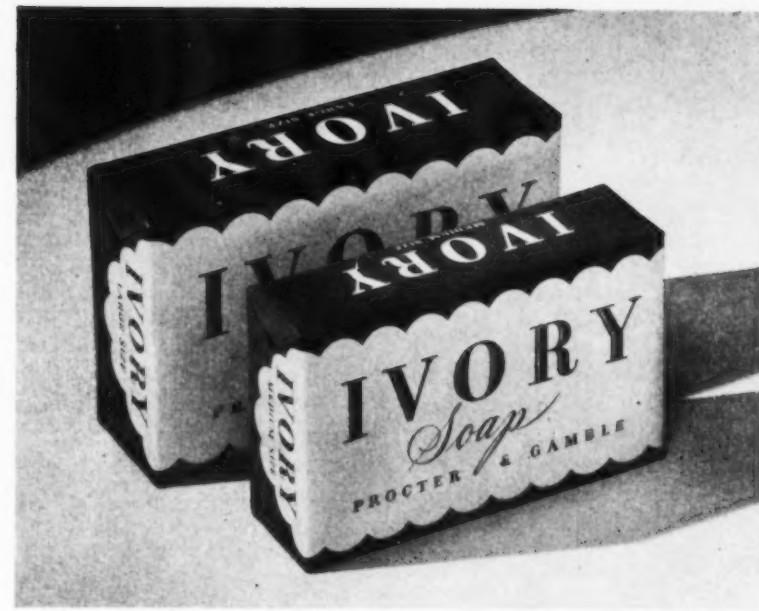
The suit, characterized by Wendell Berge, Assistant U. S. Attorney General, as of "major importance" is directed against another American export association, California Alkali Export Association of Los Angeles, a British corporation (Imperial Chemical Industries, Ltd.,) and thirteen American manufacturers of such alkalis as sodium bicarbonate, soda ash and caustic soda.

M M & R Entertain Drug Firms

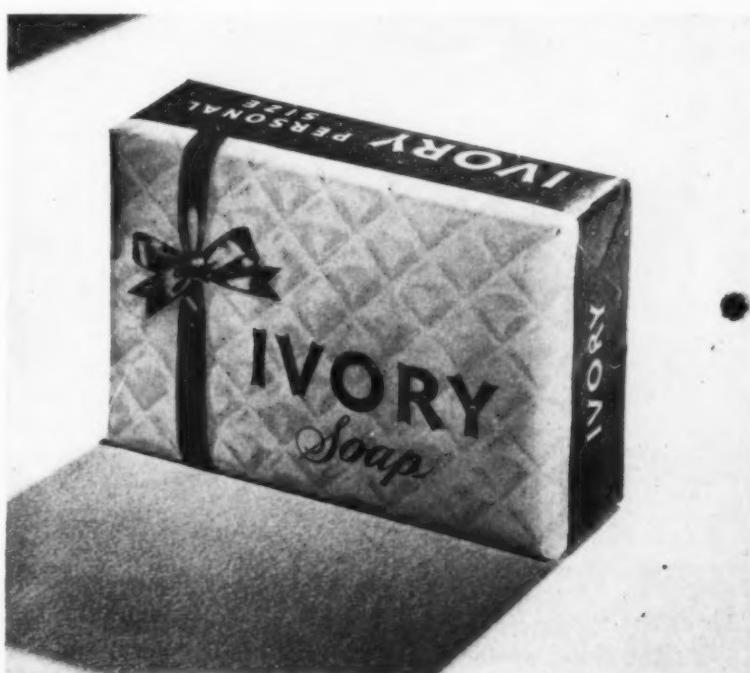
Drug wholesalers, representatives of drug and pharmaceutical houses and members of the trade press were present at the annual dinner at the Hotel Astor, New York, March 4, given by Magnus, Mabee & Reynard, Inc., essential oil house, New York. Percy C. Magnus, president of the company, welcomed the more than 300 guests and introduced the following speakers: Charles A. Loring, Lace I. Fitschen, president of the National Wholesale Druggists Association, and Ivor Griffith, dean of the Philadelphia College of Pharmacy and Science.

New Penn Salt Cleaners

Two new emulsion type cleaners have been announced recently by Pennsylvania Salt Manufacturing Co., Philadelphia. The first is a solvent



Ivory soap is now being put up in new wrapper designs. For the large and medium sized bars the familiar blue and white color scheme is retained in a white scalloped front panel carried to the ends of the bar with simplified, more legible typography. Guest Ivory has been renamed as well as repacked. Now it's "Personal Size" Ivory, and is packaged in a beige and blue and white wrapper with a front panel that features a quilted background and blue ribbon design. Both new package designs are directed toward emphasizing use as toilet soaps.



emulsion cleaner, Pennsalt E. C. No. 10, which is said to combine soap emulsifying action with solvent penetration. Its suggested uses are for cleaning metals. The other cleaner,

a concentrate type emulsion cleaner, Pennsalt E. C. No. 2, is recommended for industrial grease cleaning applications. It is soluble in water and in hydrocarbon solvents.

serving industry . . .

FIFTY GRADES of sodium silicates are here for present day needs in vital industries and for the needs to come. The useful combinations in the range from $3\text{Na}_2\text{O} \cdot 2\text{SiO}_2$ to $\text{Na}_2\text{O} \cdot 3.9\text{SiO}_2$ serve as detergents, adhesives, cements, colloids, inhibitors, coagulating and deflocculating agents and in many other ways.

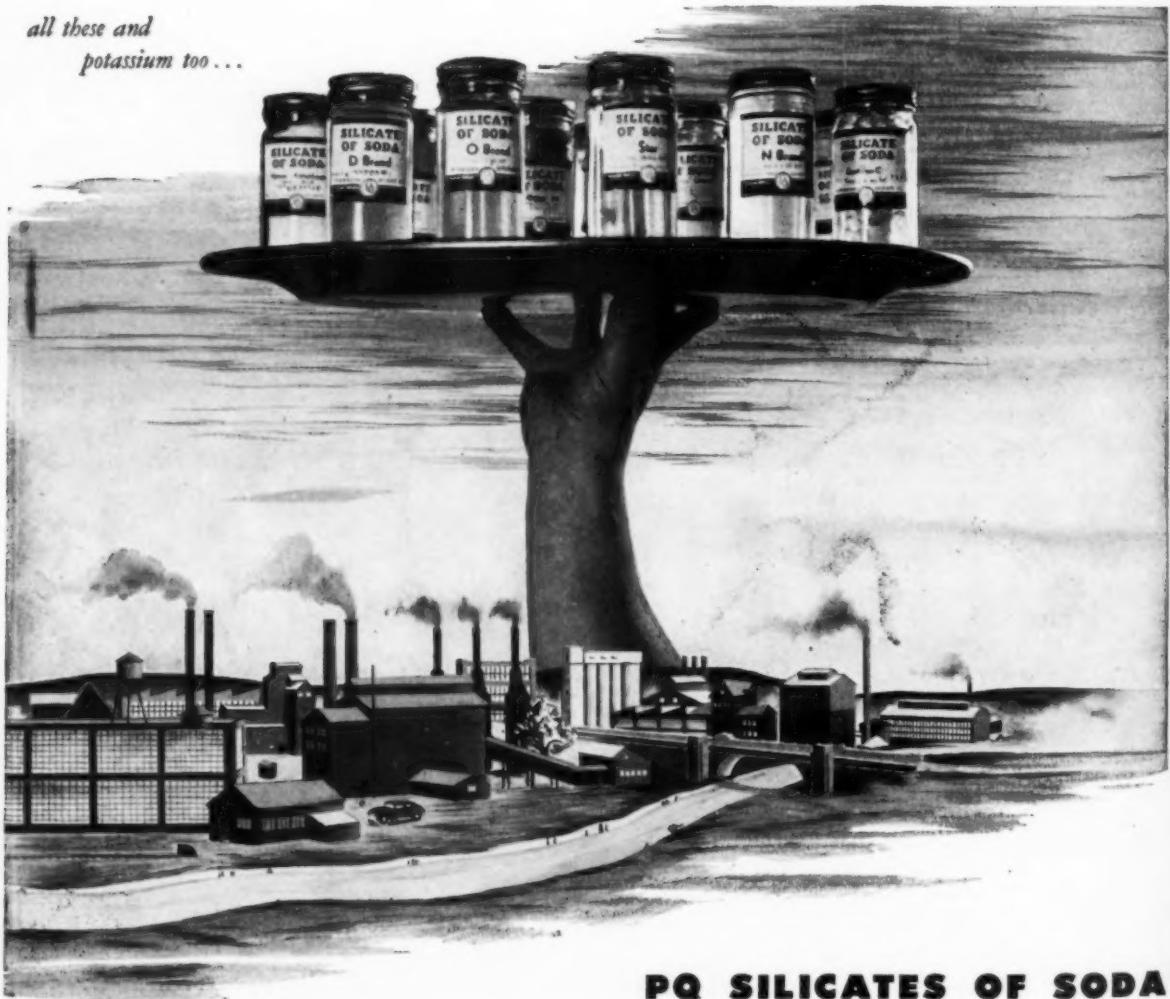
In certain applications, such as liquid soaps, the use of sodium silicate would be objectionable. For this use, the soap manufacturer can turn to potassium silicates. Several grades are offered under the general name of Kasil.

KASIL No. 1 Molecular ratio 1:3.9 29° Baumé
KASIL No. 2 Molecular ratio 1:3.9 32° Baumé
KASIL No. 6 Molecular ratio 1:3.29 40.5° Baumé

Would you like more information on Kasil Potassium silicates? We welcome the opportunity to furnish it together with experimental samples. There is no obligation.

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*all these and
potassium too . . .*



PQ SILICATES OF SODA

WORKS: Anderson, Ind. • Baltimore, Md. • Chester, Pa. • Gardenville, N.Y. • Jeffersonville, Ind. • Kansas City, Kans. • Rahway, N.J. • St. Louis, Mo. • Utica, Ill.

Fat Salvage Collections Gain

Reports from the fat salvage campaign indicate that collections of used fats from housewives are currently running at the rate of approximately 18 million pounds per month, or 216,000,000 lbs. per year. This is exclusive of Army and Navy collections which are tabulated separately. Since adoption of the "points for fats" program, collections have reached a level in the neighborhood of 250 per cent of former collection figures.

Jergens' Plant Has Strike

A strike involving more than 100 workers, a majority of them said to be women, tied up production last month in the Andrew Jergens Co. plant in Belleville, N. J. The strike, according to William Reed, president of an AFL union representing the employees, was based on the company's alleged refusal to abide by a National War Labor Board directive and a cut in incentive pay. The company made no comment.

Conklin Feted at Luncheon

Walter A. Conklin, of Evans Chemetics, Inc., New York, and president of Foragers of America, was tendered a surprise luncheon by a group of his friends in the industry on Feb. 10, at the Scribes restaurant, New York. Following the luncheon, Mr. Conklin was presented with a set of glasses and a tray.

Derleth Schundler Sales Mgr.

C. P. Derleth was recently appointed sales manager of the bentonite division of F. E. Schundler & Co., producers and manufacturers of bentonite and non-metallic minerals used in the manufacture of soaps, soap powders, polishes, insecticides, fungicides and sanitary chemicals, Joliet, Ill. Mr. Derleth succeeds A. C. Behrendsen.

Hooker Advances Coey

John S. Coey has been appointed to the sales development department of Hooker Electrochemical Co., Niagara Falls, N. Y. A graduate in chemistry of Amherst College, Mr. Coey for the past seven years has been in the



Bernard Marks, sales director of Lightfoot Schultz Co., New York, talking to John Bradshaw of Southwestern Drug Co., Dallas, at the recent Druggist Supply Corp. convention at the Hotel Pennsylvania, New York. Looking on are Milton Danmann, president of American Safety Razor Corp., and Victor P. Strite, recently appointed general sales manager.

manufacturing department of the company where he was in charge of the process study group, engaged in the improvement of processes, operating efficiencies and quality of products.

"E" To Kay Fries

Kay Fries Chemicals, Inc., producers of aromatic and organic chemicals, West Haverstraw, N. Y., have just announced that the Army-Navy "E" Production Award will be made to the men and women of the company on April 4. The ceremonies will take place in the Haverstraw High School auditorium at 3:15 p.m. where Lt. Col. Charles Kerwood of the U. S. Army Air Forces will make the presentation. Acceptance of the award for the company will be made by J. T. Ames, executive vice-president.

Curran Announces New Solvent

Curran Ordnance Research Laboratory, Malden, Mass., manufacturers of "Gunk," self-emulsifying degreasing solvents, announce a new alkyl aromatic solvent concentrate. Non-inflammable and non-combustible, the new solvent is said to have no low volatiles and to form clear solutions with water. Other claims put forward for the new solvent are that the aqueous

solutions are stated to be completely stable at elevated temperatures, to have been demonstrated to inhibit rusting of parts cleansed.

C. W. Brown ISCO Rep. Dies

Charles W. Brown, 64, manager of the Chicago office of Innis, Speiden & Co., New York gum importers, died in Chicago, March 15. A native of Crandall, Tex., Mr. Brown had been associated with Innis, Speiden & Co. since 1907. He had been active in selling throughout the Chicago and middle western territory. He attended the Chicago School of Pharmacy and Northwestern University.

Lt. Highberger Lost in Action

Second Lieutenant W. W. Highberger, 37, of the Chemical Warfare Service, U. S. Army, reported missing in action in the European theatre a year ago and now listed as lost in action, has been posthumously awarded the Order of the Purple Heart for "military merit and for wounds received in action." Lt. Highberger had been connected with Mathieson Alkali Works, New York, for ten years previous to his being commissioned in Sept., 1942.



**Even under fire
our soldiers
get their daily quart of milk!**

Wherever our fighting men go, their K ration kits supply them with their daily milk supply . . . in the form of cheese packed in 4 ounce cans!

It takes 10 pounds of milk (5 quarts) to make one pound of American Cheddar Cheese . . . so each of these 4 ounce cans contains the essential food values of a quart plus an additional glass of milk.

The Plymouth, Wisconsin, Plant of the Lakeshire-Marty Co., Division of The Borden Company,

packs millions of pounds of Pasteurized Processed Cheese in sturdy, easy-to-open cans supplied by Crown. In all parts of the world, our fighting forces are getting their "quart of milk each day" . . . in the form of cheese . . . thanks to these Crown Cans that protect the contents from the Wisconsin plant all the way to the front!

One more reason why the men and women of Crown take extra pride in their job of making the containers that serve our fighting men!

CROWN CAN COMPANY, New York • Philadelphia
Division of Crown Cork and Seal Company, Baltimore, Md.

* * *

CROWN CAN



BIDS AND AWARDS

Hollingshead Low On Wax Bid

The following bids were received in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, on 4,000 gallons of transparent wax: Windsor Wax Co., Hoboken, N. J., 62c; Ful Brothers, Baltimore, 65.3c; Buckingham Wax Co., Long Island City, N. Y., 66c; R. M. Hollingshead Corp., Camden, N. J., 49c; L. Sonnenborn Sons, New York, 67c; Oil Specialties & Refining Co., Brooklyn, 68.2c; Keppler Bros., New York, 70c; Uncle Sam Chemical Co., New York, 82c and Cantor Bros., Brooklyn, \$1.35.

District Gov't Insecticide Award

Sinclair Refining Co., New York, received the award in a recent opening for miscellaneous supplies by the District Government, Washington, D. C., on 50 gallons of insecticide at 58c.

Metal Polish Award

In recent openings by the Navy Bureau of Supplies and Accounts, Washington, D. C., for miscellaneous supplies, the following awards have been announced: lot 1, for Bayonne, Portsmouth, Va., and New Orleans, 100,000 pints of liquid metal polish; 2, San Diego and San Pedro, Calif., 60,000 pints, R. M. Hollingshead Corp., Camden, N. J., 6.6c on all items. C. G. Whitlock Chemical Co., Springfield, Ill., received the award on lot 1, items 3, 1 and 2 at 58.35c on 214,000 gallons of liquid insecticide for San Diego, Oakland and Seattle.

Navy Soap Dispenser Bids

Among the bids received in a recent opening for miscellaneous supplies by the New York Navy Yard, New York, on 300 soap dispensers were those from Smolka Co., New York, \$2.75; Unity Sanitary Supply Co., New York, \$3.25; Reliable Metal Novelty Co., New York, \$2, black with crank or button handle or \$2.30 white with

crank handle or \$2.50 white with black handle; and W. H. Hussey & Son, New York, \$1.75 white plastic with crank handle or \$1.85 white with black button handle or \$1.45 black with crank handle.

Clifton Low on Deodorant Blocks

Clifton Chemical Co., New York, received the award in a recent opening for miscellaneous supplies by the Philadelphia Navy Yard, Philadelphia, with a low bid of \$65 on 1,000 urinal deodorant cakes. Among the other bids received were those from Kemico Mfg. Co., Irvington, N. J., \$82.50; J. A. Tumbler Labs., Baltimore, \$69 and U. S. Sanitary Specialties, Chicago, \$90.

Roach Powder Bids

The following bids were received in a recent opening for miscellaneous supplies by the Philadelphia Navy Yard, Philadelphia, of 1,400 pounds of roach powder: A. G. Mattison, Portsmouth, N. H., items 1 and 2, 22c a pound each; Soilicide Laboratories, Montclair, N. J., item 1, 23.75c, 2, 22.5c; P. H. Harris, Baltimore, items 1 and 2, 40c each.

Phila. Navy Bore Cleaner Award

R. M. Hollingshead Corp., Camden, N. J. submitted the low bid of 80c a gallon on 620 gallons of rifle bore cleaner in a recent opening for miscellaneous supplies by the Philadelphia Navy Yard, Philadelphia.

PALM OIL OUTLOOK

(From Page 33)

has not been able to arrange for transportation of its quota. Incidentally a recent revision in the quota arrangement is reported, giving Canada more palm oil for soap use to replace Argentine tallow which they have not been able to bring in. Soapers in the United States would seem to have no legitimate

grounds for complaint on this point, however, as up to this point we have not been able to go after and bring back the quota originally assigned to us.

What are the prospects for increased use of palm oil in soaps in the post-war period? Much will depend of course on which phase of the war ends first. If the European war should end this year or next, there seems to be a strong probability that substantial quantities of African palm oil would go to Europe for edible purposes. West African oil has improved substantially in quality over recent years and now is said to compare very favorably with pre-war shipments from the Sumatran plantations. Free fatty acid content has been brought down to a figure in the neighborhood of 3 per cent, promising increased glycerine yield from such quantities of this oil as the American soap industry may have access to.

It would seem quite possible, however, that fat-starved Europe might well take almost the entire African production in the immediate post-war period, and American soapers might not be able to count on getting stocks of palm oil in pre-war quantities until after Sumatra is retaken from the Japs and the plantations there restored to production. Thus it might be four or five years, or more, before palm oil again regains the importance as a soap raw material that it had before the war.

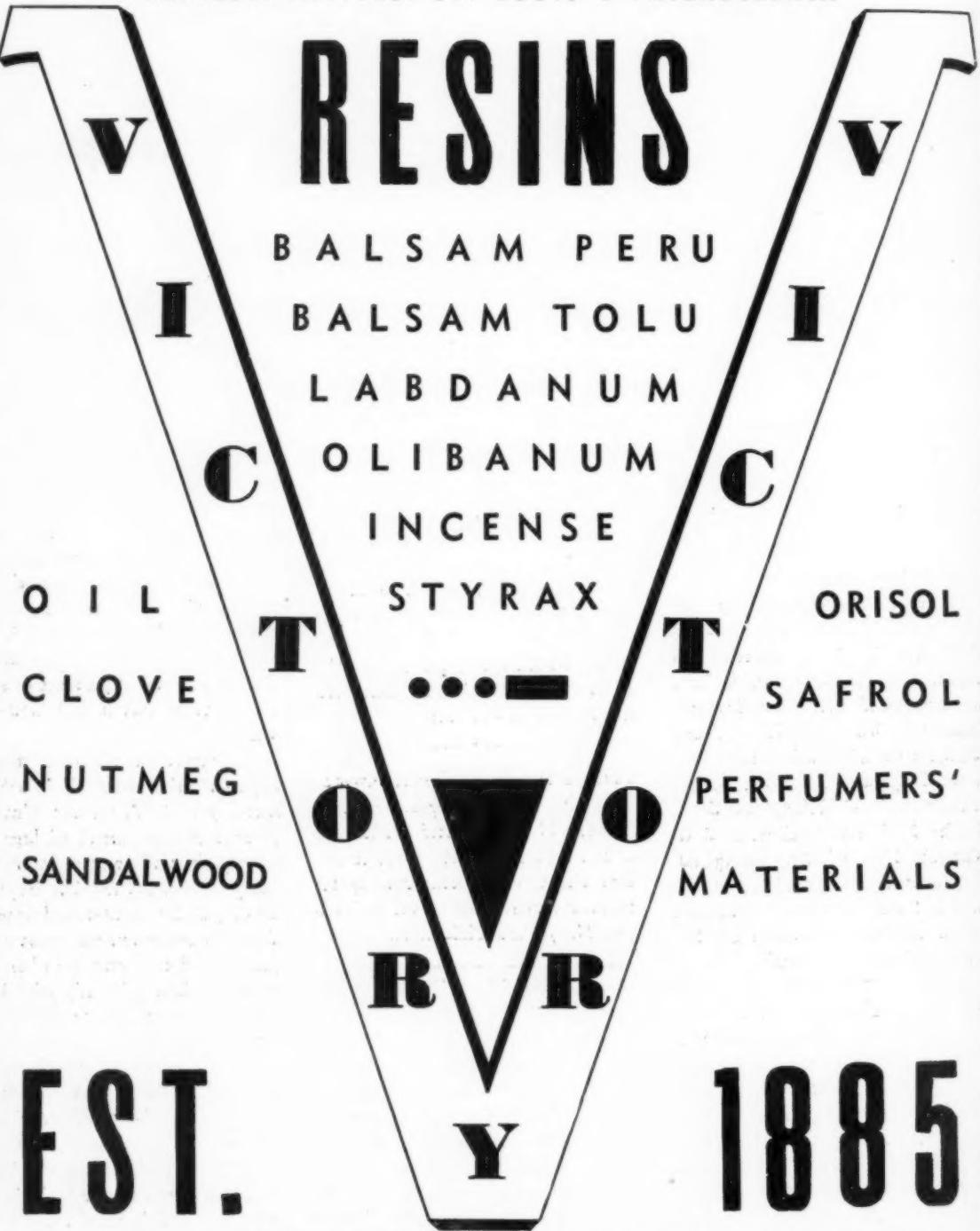
Somewhat the same situation applies to palm kernel oil. In only one recent year, 1937, has any substantial amount of palm kernel oil been used in soap, the total consumption in 1937 being 111,000,000 lbs. Use dropped to 29,000,000 lbs. in 1938, and since that date only one or two million pounds of palm kernel oil a year, have been used in soaps. Like palm oil, palm kernel has also been subject to close control by the FDA. The order covering palm kernel oil is FDO-43 which restricts use of high lauric acid content oils. Stocks of palm kernel oil would indeed represent a welcome supplement to our short supplies of coconut and babassu oils, but there seems to be little prospect of any early relief from African production.

GEORGE LUEDERS & CO.

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REPRESENTATIVES: ST. LOUIS • PHILADELPHIA



NEW

TRADE MARKS

The following trade-marks were published in the March issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

NUTROSAN—This in upper case, extra bold stencil letters for detergents for scouring and washing such materials as textiles, leathers and furs. Filed Sept. 30, 1943 by Nyanza Color & Chemical Co., New York. Claims use since Apr. 30, 1934.

CLARAPON—This in upper case, bold stencil letters for a detergent and scouring preparation. Filed Dec. 9, 1943 by Atlas Color & Chemical Co., Boston. Claims use since May 13, 1937.

MISTOSEAL—This in upper case, extra bold letters for a floor wax containing gums, resins and oils. Filed Oct. 4, 1943 by Acme Chemical Co., Milwaukee. Claims use since Aug. 1, 1934.

DAD'S—This in upper and lower case, extra bold script letters for liquid spot remover. Filed Sept. 10, 1943 by L. H. Seccombe & Sons, Ansonia, Conn. Claims use since Oct. 16, 1943.

(A fanciful circular design in blue, green, red and yellow for cleaning materials.) Filed Oct. 14, 1943 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since July, 1943.

C. W.—This in upper case, bold letters for cleaning and detergent material. Filed Dec. 3, 1943 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Sept. 8, 1938.

METAVIS—This in upper case, bold stencil letters for metallic soap composition. Filed Nov. 3, 1943 by Metasap Chemical Co., Harrison, N. J. Claims use since 1925.

NAMICO—This in extra bold, black upper case letters for germicide, bleach and deodorant. Filed Nov. 23, 1943 by National Milling & Chemical Co., Philadelphia. Claims use since Sept. 1, 1932.

MYCO TRAZSEAL—This in upper case, bold letters for liquid floor sealing compound. Filed Jan. 12, 1943 by Masury-Young Co., Boston. Claims use since Sept. 27, 1940.

PACKER'S TAR SOAP—This in upper case, bold letters on a rectangular label for soap. Filed Oct. 22, 1943 by Packer's Tar Soap, Inc., Mystic, Conn. Claims use since Nov. 20, 1942 and since Oct. 1, 1877.

B.P.I. STEEL WOOL PASTE—This in upper case, open initials in a square border design for steel wool paste for cleaning metal. Filed Dec. 11, 1943 by Bryant Products, Inc., Brooklyn. Claims use since Oct. 27, 1943.

UGL—This in upper case, black bold letters on a shield for floor and wall cleaning preparation. Filed Dec. 14, 1943 by United Gilsonite Laboratories, Scranton, Pa. Claims use since June 1, 1932.

FROLIC—This in lower case, script letters for toilet soaps. Filed Jan. 5, 1944 by Cheramy, Inc., New York. Claims use since Nov. 10, 1921.

RAT-X—This in upper and lower case, script letters for rat poison. Filed Sept. 6, 1943 by Douglas Chemical & Supply Co., Kansas City, Mo. Claims use since Sept. 1, 1940.

RAT-X-IT—This in extra bold, upper case letters for rat and mouse exterminator. Filed Oct. 27, 1943 by Eldridge Barnes Chemical Co., Bradford, Va. Claims use since Feb. 22, 1943.

CHEK-R-FECT—This in upper case, extra bold letters for disinfectant. Filed Dec. 27, 1943 by Ralston Purina Co., St. Louis. Claims use since Dec. 13, 1943.

DAZZLE—This in upper case, bold stencil letters for dish washing compound. Filed Oct. 15, 1943 by

Dazzle Co., Chicago. Claims use since June 1, 1943.

REC-O-PAD—This in upper case, bold letters, the center one or the "o" being in the form of a phonograph record, for chemically treated wiping pads for cleaning and preserving phonograph records. Filed Nov. 3, 1943 by Recordite Co., St. Louis. Claims use since Sept. 1, 1943.

M. M. P. CO. CHICAGO GLEN RIDGE—This in upper case, bold letters at the four corners of a rectangular design in the center of which is a diamond enclosing the words "Trade-X-Mark" for buffing and polishing compositions used on metal, glass, plastics, enamels and other surfaces. Filed Dec. 8, 1943 by Matchless Metal Polish Co., Chicago. Claims use since Jan., 1892.

BIG BOY—This in upper case, extra bold letters for soap, and polishing powder. Filed Dec. 29, 1943 by John T. Stanley Co., New York. Claims use since Sept., 1934.

METASAP—This in upper case, bold stencil letters for metallic soap composition. Filed Nov. 3, 1943 by Metasap Chemical Co., Harrison, N. J. Claims use since Jan., 1937.

ANTI-KLO—This in upper case, extra bold, black letters for liquid and solid deodorants which are used for removing bleach. Filed Dec. 6, 1943 by Chlorine Solutions, Inc., Los Angeles. Claims use since June, 1941.

ONYX BTC—This in upper case, bold letters for quaternary ammonium antiseptic compound for industrial antiseptic purposes. Filed Jan. 4, 1944 by Onyx Oil & Chemical Co., Jersey City, N. J. Claims use since Aug., 1943.

ONYXSAN—This in extra bold, upper case letters for quaternary ammonium antiseptic compound. Filed Jan. 4, 1944 by Onyx Oil & Chemical Co., Jersey City, N. J. Claims use since Mar., 1938.

BARBER POLE—This in upper case letters across a map of the United States and Central and South America within a circle on a diagonal striped rectangular design for liquid shave cream. Filed Aug. 5, 1943 by Vaness, Chicago. Claims use since Jan. 1, 1943.



ONLY THE PROCTOR FLAKE SOAP SYSTEM ASSURES SUCH HIGH SPEED PRODUCTION

A great increase in the speed of production is one of the many important advantages offered by the Proctor Flake Soap System. It is an advantage that is often an item of tremendous saving. Methods that once required over 300 hours for framing, slabbing, chipping, crushing, drying and milling were very costly in space, labor, equipment and inventory required. The Proctor Flake Soap System reduces the time for the production of package of soap flakes to 8 minutes for the thinnest flakes, up to 10 minutes for the thicker flakes. At this increased production speed, considerably less inventory need be carried, quicker deliveries are assured and there are very great savings in floor space, labor and equipment. Capacities with this modern system reach as high as 6,000 pounds per hour.

NOW IS THE TIME

It is none too soon for you to begin giving careful consideration to your postwar equipment needs. A little time-out now will undoubtedly save you a considerably more costly "time-out" period when the conversion comes. Now is the time to let Proctor engineers assist you in planning for the new machinery that will help you increase your postwar profits.

PROCTOR FLAKE SOAP SYSTEM
Manufactured by
PROCTOR & SCHWARTZ • Inc. PHILADELPHIA • PA.

HILL'S SILVER FLUFF—This in upper and lower case, script and old English letters on heraldic symbols for silver polish. Filed Nov. 15, 1943 by Hill Manufacturing Co., Atlanta. Claims use since July 3, 1943.

BIO-SEAL—This in upper case, bold letters for soap chips, soap flakes, soap powder and liquid soap. Filed Dec. 2, 1943 by Green & Green, New York. Claims use since June 1, 1941.

ALCONOX—This in upper case extra bold, black letters for cleaning and detergent compound. Filed Dec. 24, 1943 by Fabric Chemicals Co., Jersey City, N. J. Claims use since Sept. 1, 1943.

DEN-NEX—This in upper case, reverse letters for compound for removing paint, lacquer and similar materials from the hands. Filed Jan. 6, 1944 by Dennis Chemical Co., St. Louis. Claims use since July 1, 1943.

THEURGENE—This in upper and lower case, bold script letters for liquid antiseptic. Filed Aug. 25, 1943 by Poling Chemical Co., Minneapolis. Claims use since Feb. 27, 1943.

RED CIRCLE ROACH DESTROYER—This in upper and lower case letters above and below black circle in which is the drawing of a roach for roach insecticide. Filed by William M. Gould, Houston, Tex. Claims use since June 11, 1929.

KIL-KLO—This in upper case, extra black letters for liquid and solid deodorants which are employed for the purpose of removing bleach. Filed Dec. 6, 1943 by Chlorine Solutions, Inc., Los Angeles. Claims use since June, 1941.

FLOURODINE—This in upper and lower case, bold, script letters for tooth powder. Filed Dec. 10, 1943 by Frank Keeve, New York. Claims use since March, 1940.

SOVATOX—This in upper case, bold letters for insecticide. Filed Jan. 12, 1944 by Socony-Vacuum Oil Co., New York. Claims use since Sept. 9, 1943.

Trade Marks Granted

405,750. Surface polishes and cleansers. Filed by Special Chemicals Corp., New York, June 24, 1942. Serial No. 453,857. Published Dec. 14, 1943. Class 4.

405,751. Shoe polish. Filed by Boyer & Co., Philadelphia, July 3, 1942. Serial No. 454,026. Published Dec. 14, 1943. Class 4.

405,761. Soap. Filed by Skol, Inc., New York, Mar. 18, 1943. Serial No. 459,207. Published Dec. 4, 1943. Class 4.

405,773. Self polishing wax and furniture polish. Filed by Club Aluminum Products Co., Chicago, June 21, 1943. Serial No. 461,544. Published Dec. 14, 1943. Class 16.

405,795. Modified soda ash cleanser containing caustic soda. Filed by Solvay Process Co., New York, Aug. 26, 1943. Serial No. 466,033. Published Dec. 14, 1943. Class 4.

405,808. Chemical preparation for removing and preventing boiler scale. Filed by Klenzoid Corp., Philadelphia, Sept. 20, 1943. Serial No. 463,520. Published Nov. 23, 1943. Class 6.

405,809. Substitute for household ammonia. Filed by F. Uddo & Sons, New Orleans, Sept. 21, 1943. Serial No. 463,520. Published Nov. 23, 1943. Class 6.

405,817. Germicides. Filed by Lst Manufacturers, Stamford, Conn., Oct. 5, 1943. Serial No. 460,906. Published Dec. 7, 1943. Class 6.

405,860. Detergents: dry cleaning soap and preparations. Filed by Caled Products Co., Brentwood, Md., Mar. 6, 1941. Serial No. 441,279. Published Dec. 21, 1943. Class 4.

405,894. Cleaning paste. Filed by James Products Co., Joplin, Mo. May 18, 1943. Serial No. 460,701. Published Dec. 14, 1943. Class 4.

405,942. Shoe polishes. Filed by Sheik Products Co., Freeport, N. Y., Oct. 14, 1943. Serial No. 461,142. Published Dec. 21, 1943. Class 4.

405,944. Cleaner for wallpaper and other surfaces. Filed by Kutol Products Co., Norwood, O., Oct. 20, 1943. Serial No. 464,268. Published Dec. 21, 1943. Class 4.

405,945. Soap. Filed by Lehn & Fink Products Corp., Bloomfield, N. J., Oct. 22, 1943. Serial No. 464,344. Published Dec. 21, 1943. Class 4.

405,999. Disinfectant, bleach, water softener and germicide. Filed by

Beacon Chemical Corp., Philadelphia, Feb. 23, 1940. Serial No. 428,792. Published July 2, 1940. Class 6.

406,005. Chemical and abrasive polish mixture. Filed by Special Chemicals Corp., New York, June 24, 1942. Serial No. 453,861. Published Dec. 15, 1942. Class 4.

406,010. Soap. Filed by Larkin Store Corp., Buffalo, Oct. 10, 1942. Serial No. 456,125. Published Dec. 28, 1943. Class 4.

406,023. Compounds for cleaning stoves, etc., and a powder rug cleaner. Filed by Korex Co., Ferndale, Mich., May 24, 1943. Serial No. 460,877. Published Sept. 21, 1943. Class 4.

406,024. Ammonia and bleach having incidental germicide, deodorant, disinfectant and cleaning properties. Filed by Edwin G. Barrese, Somerville, Mass., May 27, 1943. Serial No. 460,948. Published Dec. 21, 1943. Class 6.

406,026. Shampoo. Filed by Middlebrooke Lancaster, Inc., Brooklyn, June 11, 1943. Serial No. 461,322. Published Dec. 21, 1943. Class 6.

406,045. Chemical preparation for removing and preventing boiler scale. Filed by Klenzoid Corp., Philadelphia, Sept. 20, 1943. Serial No. 463,522. Published Dec. 21, 1943. Class 6.

406,070. Insecticides. Filed by Geigy Co., New York, Oct. 14, 1943. Serial No. 464,132. Published Dec. 21, 1943. Class 6.

406,071. Insecticides. Filed by Geigy Co., New York, Oct. 14, 1943. Serial No. 464,133. Published Dec. 21, 1943. Class 6.

406,081. Insecticides. Filed by Stauffer Chemical Co., San Francisco, Oct. 18, 1943. Serial No. 464,259. Published Dec. 21, 1943. Class 6.

406,087. Liquid deodorant. Filed by Seeman Bros., Inc., New York, Oct. 1, 1943. Serial No. 463,823. Published Dec. 7, 1943. Class 6.

406,113. Bath foam. Filed by Alexandra De Markoff, New York, May 28, 1940. Serial No. 432,428. Published Sept. 10, 1940. Class 6.

406,118. Shampoo. Filed by Dermetics, Inc., Seattle, Aug. 23, 1941. Serial No. 446,489. Published Dec. 28, 1943. Class 6.

(Turn to Page 78)



Not until Valencia — the standard of American Pumice — was discovered at Grants, New Mexico, was it thought that a domestic pumice could match the quality of imported Italian Pumice. This inexhaustible deposit at Grants is true pumice stone and not a volcanic ash. It is physically and chemically equal in every respect to the now unobtainable Italian Pumice. • The Valencia plant's output of grades for every need is rigidly under control for particle size, purity, weight and color.

Check this table comparing Valencia with the highest grade of imported Italian Pumice. See for yourself that Valencia is truly the standard of American Pumice.

	American Pulverized Per Cent	Italian Select Per Cent
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide	.86	1.57
Titanium Oxide	.06	.10
Calcium Oxide	.80	1.10
Magnesium Oxide	.36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulphuric Anhydride	.03	.05
Loss on ignition	5.20	4.04

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RAW MATERIAL

MARKETS

As of March 29, 1944

ACCORDING to reports, soap makers were not able to purchase all of the fifty million pounds of lard earmarked for them in March because of large sales to the government for lend-lease shipments. It was hoped that the order permitting the purchase of the lard by the soapers would be extended so that they could buy their full allotment. At the same time production of lard continues unusually heavy and, in the absence of instructions for shipping government purchases, storage facilities are reported to be taxed almost to the limit. In fact, one story had it that the government was refusing to buy refined lard in boxes except from those vendors who were able to store it until needed for shipment abroad. At the same time, domestic demand for lard has not increased as much as expected since rationing of lard was halted.

Lard production at Federally inspected plants in the October-February period was estimated at 1,338,000,000 pounds, compared with 862,000,000 pounds in the same period in 1942-43 and a five-year average of 843,000,000 pounds. However, disappearance of lard in the last five months was estimated to be 983,000,000 pounds—244,000,000 pounds greater than that of the previous season. Yield of lard per hog slaughtered in the last five months is estimated at 33 pounds, which is two pounds more than last season and the five-year average.

Figures just released by the Department of Agriculture's paper, *Fats and Oils Situation*, indicate that the outlook for inedible tallow and greases is improved. In the fourth quarter of 1943 a reversal of the downward trend in inedible tallow and grease production took place. This resulted, according to the Dept. of Agriculture, largely from an increase in grease production, which in turn re-

flected the increase in hog slaughter. Factory production of grease in the October-December, 1943, period was 12 per cent above the same period a year earlier. There was also an increase of about 6 per cent in factory production of inedible tallow, reflecting the increase in cattle slaughter. It has been predicted that in the twelve month period beginning Oct., 1943, total production of inedible tallow and grease may reach or exceed 1,750,000,000 pounds compared with a 1,620,000,000 pound output in the comparable period a year earlier. On the basis of the large number of hogs from the 1943 pig crop yet to be slaughtered, and the expectation that these hogs will be fed to a heavy average weight before slaughter, grease production is expected to continue above a year earlier through Sept., 1944. Another factor contributing to this optimistic picture, is the recently intensified campaign to salvage waste fats. "Tallow production," says the *Fats and Oils Situation*, "also may increase in 1944. The number of cattle slaughtered may be materially greater than in the previous year, and their average live weight may be only moderately less."

Summarizing the principal changes in the production of fats and oils in 1943 we find: lard output was increased by about 600 million pounds, reaching a new peak of 3,050,000,000 pounds, soybean production rose by 450 million pounds, and reached a figure of 1,226,000,000 pounds, 61 per cent greater than in 1942, the previous peak year. At the same time inedible tallow and grease output showed a decline of about 100 million pounds. The over-all picture shows that an estimated 10,870,000,000 pounds of fats and oils were produced in 1943 as against 9,955,000,000 pounds in 1942, thus representing a gain in 1943 of about 9 per cent as compared with 1942. A further increase is expected in 1944 with estimates of 11,200,000,000

pounds of fats and oils expected to be produced in the current year from domestic materials, which is a gain of 3 per cent. It is thought that imports in 1944 will also top those of 1943.

Against the background of these figures, it is noted that disappearance of fats and oils in 1943 was slightly less than in 1942. There will be a reversal of this trend in 1944, however, since the War Food Administration has already announced that allocation of fats and oils for use in soap in 1944 will be increased—this is, unless the shortage of packaging materials requires some curtailment of production.

On the insecticide front, the OPA announced last month that an increase in the maximum prices for agricultural dusts mixed with rotenone had been granted western sellers whose prices were frozen at low levels in the original regulation governing prices of these products. In setting specific prices for western manufacturers, the OPA, in effect, makes possible for these manufacturers a margin above direct manufacturing costs comparable to the average margin prevailing on rotenone dust in the eastern states. It will not however raise the cost of rotenone dusts to farmers above the cost of any substitute which might be used. In granting this price advance, the OPA's action is said to preclude the possibility of a threatened shortage of the product.

Benzaldehyde, an important soap perfuming material, which is also used in the manufacture of dyes and as a flavoring material in foodstuffs, was placed under its general allocation order M-300 by the War Production Board, last month. Increased military demand was given as the reason for this action. The OPA has just announced higher price ceilings on natural peppermint oil, advances averaging \$1.50 a pound by dealers.

Guns and Tanks Will Be SOAP MACHINES Again One Day

THE pendulum will swing. The metal that normally would have made a soap plodder or mill has been converted into a gun or tank. But the day will come again — soon — when the guns and tanks will be changed back to machines to provide the things of a fuller, better life.

On that day LEHMANN machines will again give notable help to the Soap Industry by providing unexcelled efficiency in the production of soap products. They will again be the best machines that scientific designing and expert workmanship can produce.

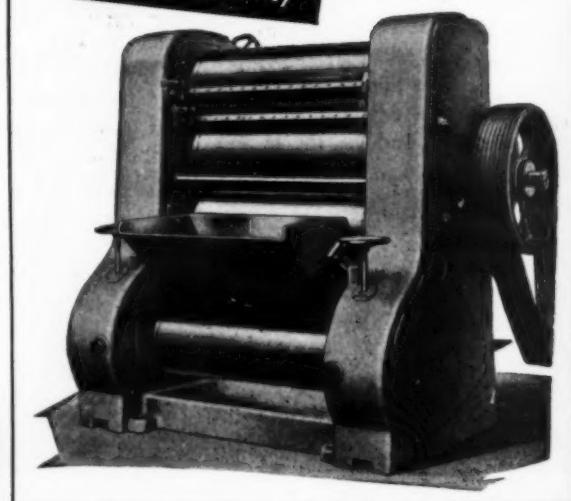


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RAW MATERIAL

PRICES

(As of March 28, 1944)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb. \$.08	\$.08½
Acid, Boric, bbls., 99½ %	ton 99.00	126.00
Cresylic, drums	gal. .81	.83
Low boiling grade	gal. .81	.83
Muriatic, C.P., carboys	lb. .06½	—
Oxalic, bbls.	lb. .11¼	.12½
Alcohol, Ethyl, drums	gal. 11.94½	11.98
Complete Denat., SDI, dms., ex.	gal. .62	.64
Alum. Potash lump, bbls.	lb. .04½	—
Ammonia Water, 26°, drums	lb. .02¼	.02½
Ammonium Carbonate, tech., drums	lb. .08½	.09¾
Bentonite	ton 9.50	13.00
Bleaching Powder, drums	100 lb. 2.50	2.75
Borax, pd., bbls., bags	ton 45.00	76.00
Carbon Tetrachloride, car lots	gal. .60	1.17
L. C. L.	gal. .80	1.27
Cresol, U.S.P., drums	lb. .10%	.11¾
Cresote Oil	gal. .15½	—
Feldspar, works	ton 14.00	20.50
Formaldehyde, bbls.	lb. .05½	.06¼
Fullers Earth	ton 8.50	15.00
Glycerine, C.P., drums	lb. .18¾	.19¼
Dynamite, drums	lb. .18¼	.18¾
Saponification, drums	lb. .12¾	.14¾
Soap lye, drums	lb. .11½	—
Lanolin, U.S.P., hydrous, drums	lb. .32½	.34
Anhydrous, drums	lb. .34	.35½
Lime, live, bbls.	ton 6.25	13.00
Mercury Bichloride, drums	lb. 1.94	—
Naphthalene, ref. flakes, bbls.	lb. .08	.08¼
Orthodichlorbenzene	lb. .07	.08
Paradichlorbenzene, drums	lb. .11	.15
Petrolatum, bbls. (as to color)	lb. .021	.08
Phenol (Carbolic Acid), drums	lb. .10	.10%
Pine Oil, drums	gal. .62	.73
Potash Caustic, solid	lb. .06¼	.06¾
Flake, 88-92%	lb. .07	.07½
Liquid, 45% basis	lb. .03	.03½
Potassium Carbonate, solid	lb. .06½	.06¾
Liquid	lb. .05½	.06¾
Pumice Stone, coarse	lb. .03¾	.04¼
Rosins (net wt., ex dock, New York)—		
Grade D to H	100 lb. 4.94	5.41
Grade 1 to N	100 lb. 5.41	5.63
Grade WG to X	100 lb. 7.25	7.32
Rotten Stone, dom., bags	lb. .0128	.019
Silica	ton 17.00	38.00
Soaps—		
Tallow Chip, 88%	lb. .11	.11¾
Powder, 92%	lb. .11¾	.12
Powdered, White Neutral	lb. .25½	.42
Olive Oil Paste	lb. .40	—
Shampoo Base	lb. .18	.20
Liquid Concentrate, 30-32%	gal. .75	.79
Soda Ash, cont., wks., bags, bbls.	100 lb. 1.15	3.25
Car lots, in bulk	100 lb. .90	.95
Soda, Caustic, cont., wks., solid	100 lb. 2.30	3.55
Flake	100 lb. 3.70	5.70
Liquid, tanks, 47-49%	100 lb. 1.92½	1.95

Soda Sal., bbls.	100 lb.	1.20	1.40
Sodium Chloride (Salt)	ton	14.20	18.00
Sodium Fluoride, bbls.	lb.	.07	.08
Sodium Bisulfate	100 lb.	2.20	2.40
Sodium Metasilicate, anhyd.	100 lb.	4.00	5.30
Granulated	100 lb.	2.50	3.55
Sodium Pyrophosphate	100 lb.	5.28	6.60
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.26½	.33½
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.70	3.40

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.1110	Nom.
Castor, No. 1, bbls.	lb.	.1300	—
No. 3, bbls.	lb.	.1375	.1425
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.0835	—
Tanks, Pacific Coast, futures	lb.	No Prices	
Copra, bulk, coast	lb.	No Prices	
Corn, tanks, West	lb.	.12%	—
Cottonseed, crude, tanks, mill	lb.	.12%	—
PSY, futures	lb.	.14	—
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.14	.14½
Coconut Oil, tanks, Twitchell, Chi.	lb.	.15½	.17½
Cotton Oil, tanks, Chicago	lb.	.11¼	.14¾
Settled soap stock, Chicago	lb.	.03%	.04
Boiled soap stock, 65%, Chi.	lb.	.04%	.05
Foots, 50%, Chicago	lb.	.03%	.03%
Castor Oil, split, tanks, N. Y.	lb.	.20%	.21¼
Linseed Oil, split, tanks, N. Y.	lb.	.1530	—
Distilled	lb.	.21½	.22
Myristic acid, distilled, tanks, N. Y.	lb.	.19	.19½
Palm Oil, white, tanks, N. Y.	lb.	.13	.13½
Single distilled	lb.	No Prices	
Soybean Oil, split, tanks, N. Y.	lb.	.1175	—
Distilled	lb.	.15%	—
Red Oils, bbls., dist. or sapon.	lb.	.1325	.1475
Tanks	lb.	.12%	—
Stearin Acid, saponif.			
Double pressed	lb.	.15%	.16%
Triple pressed	lb.	.18%	.19%
Greases, choice white, tanks	lb.	.08%	—
Yellow	lb.	.08¼	—
Lard, city, tubs	lb.	.1400	—
Linseed, raw, bbls.	lb.	.1530	—
Tanks, raw	lb.	.1470	—
Olive, denatured, bbls., N. Y.	gal.	No Stocks	
Foots, bbls., N. Y.	lb.	No Stocks	
Palm, Sumatra, cif. New York, tanks	lb.	No Prices	
African, tanks, ex. ship	lb.	.08%	Nom.
Palm, kernel	lb.	No Prices	
Peanut, crude, tanks, mill	lb.	.13	Nom.
Soya Bean, domestic, tanks, crude	lb.	.11%	Nom.
Stearin, oleo, bbls.	lb.	.1054	—
Tallow, special, f.o.b. N. Y.	lb.	.08%	—
City, ex. loose, f.o.b. N. Y.	lb.	.08%	—
Teased Oil, crude	lb.	.29	Nom.



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The last word in modern packaging machinery, automatic and semi-automatic Elec-Tri-Pak Vibratory Feed Weighers are available today, on priority, for packaging crackers, cookies, candies, beans, peas, rice, tapioca, metal specialties, rivets, nuts, bolts, grocery staples, potato chips, marshmallows, coffee, prunes, bread crumbs, chemicals, powders and a host of other items. They feature: fraction-of-an-ounce accuracy; speed; self-cleaning; delicate handling of product; quick change-over from one product to another; versatility. NEW 20 PAGE BULLETIN describes many Elec-Tri-Pak installations. Write for a copy.



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(As of March 29, 1944)

Essential Oils

Almond, Bitter, Artificial	lb. \$.85	\$.98
Bitter, F.F.P.A.	lb. 5.25	7.00
Sweet, cans	lb. 2.00	2.75
Anise, cans, U.S.P.	lb. 3.50	4.00
Bay, 55-60% phenols, cans	lb. 1.60	1.90
Bergamot, coppers, S.A.	lb. 8.25	—
Artificial	lb. 2.25	4.50
Birch Tar, rect., cans	lb. 3.00	3.25
Crude, cans	lb. 2.00	2.25
Bois de Rose, Brazilian	lb. 4.00	5.00
Cayenne	lb. 1.05	—
Cade (juniper tar), drums	lb. 1.25	1.50
Cajeput, tech., drums	lb. 1.55	2.25
Calamus, cans	lb. 22.50	35.00
Camphor, Sassy, drums	lb. —	—
White, drums	lb. .48	—
Cananga, native, cans	lb. 8.10	8.75
Rectified, cans	lb. 8.90	11.00
Cassia, Redistilled, U.S.P.	lb. 10.50	12.50
Cedar Leaf, cans	lb. 1.20	1.45
Cedar Wood, light, drums	lb. .60	.70
Citronella, Java, drums	lb. 2.50	2.80
Citronella, Ceylon, drums	lb. .90	1.05
Clove, U.S.P., cans	lb. 1.65	1.75
Eucalyptus, Austl., U.S.P., cans	lb. 1.02	1.18
Fennel, sweet, cans	lb. 3.00	3.90
Geranium, African, cans	lb. 13.00	16.00
Bourbon, cans	lb. 13.00	16.00
Turkish (Palmarosa)	lb. 4.50	5.50
Hemlock, cans	lb. 1.25	1.45
Lavender, 30-32% ester cans	lb. 7.50	—
Spike, Spanish, cans	lb. 3.60	4.75
Lemon, Ital., U.S.P.	lb. —	—
Cal.	lb. 3.25	—
Lemongrass, native, cans	lb. 1.35	1.50
Linaloe, Mex., cases	lb. 3.25	3.75
Nutmeg, U.S.P., cans	lb. 4.50	7.00
Orange, Sweet, W. Ind., cans	lb. 4.00	5.00
Italian cop	lb. —	—
Distilled	lb. .75	.78
California, expressed	lb. 1.10	1.50
Origanum, cans, tech.	lb. 2.40	3.00
Patchouli	lb. 6.60	9.00
Pennyroyal, dom.	lb. 3.00	4.10
Imported	lb. 3.00	3.25
Peppermint, nat., cans	lb. 6.00	—
Redis., U.S.P., cans	lb. 6.35	—
Petitgrain, S. A., cans	lb. 1.50	1.75
Pine Needle, Siberian	lb. 3.10	3.50
Rosemary, Spanish, cans	lb. 1.90	2.00
drums	lb. 1.50	1.65
Sandalwood, dom., dist., U.S.P.	lb. 6.25	6.75
Sassafras, U.S.P.	lb. 1.90	2.25
Artificial, drums	lb. 1.25	1.40
Spearmint, U.S.P.	lb. 4.00	—
Thyme, red, N.F.	lb. 2.50	3.25
White, N.F.	lb. 2.65	4.00
Vetiver, Java	lb. 25.00	45.00
Ylang Ylang, Bourbon	lb. 11.00	14.00

Aromatic Chemicals

Acetophenone, C. P.	lb. \$ 1.55	\$ 1.60
Amyl Cinnamic Aldehyde	lb. 2.00	5.00
Anethol	lb. 1.85	2.35
Benzaldehyde, tech.	lb. .45	.55
N. F. VI	lb. .85	.98
Benzyl, Acetate	lb. .60	Nom.
Alcohol	lb. .68	.75
Citral	lb. 2.85	5.00
Citronellal	lb. 2.75	3.25
Citronellol	lb. 6.00	7.00
Citronellyl Acetate	lb. 8.60	8.60
Coumarin	lb. 2.75	3.25
Diphenyl oxide	lb. .48	.55
Eucalyptol, U.S.P.	lb. 2.50	3.25
Eugenol, U.S.P.	lb. 2.50	3.05
Geraniol, Soap	lb. 2.50	3.00
Other grades	lb. 3.50	4.00
Geranyl Acetate	lb. —	—
Heliotropin	lb. 3.25	3.40
Hydroxycitronellal	lb. 8.50	9.00
Indol, C. P.	lb. 26.00	27.50
Ionone	lb. 3.40	5.75
Isoborneol	lb. .81	1.10
Iso-borynl acetate	lb. .85	1.00
Iso-Eugenol	lb. 3.90	4.00
Linalyl Acetate	lb. 5.50	10.00
Linolool	lb. 6.60	8.00
Menthol, natural	lb. —	—
Synthetic, U.S.P.	lb. 13.00	19.00
Methyl Acetophenone	lb. 1.60	—
Anthranilate	lb. 2.20	2.50
Paracresol	lb. —	—
Salicylate, U.S.P.	lb. .40	.92
Musk Ambrette	lb. 9.50	14.00
Ketone	lb. 4.50	12.00
Xylool	lb. 1.40	2.90
Phenylacetalddehyde	lb. 2.60	3.00
Phenylacetic Acid	lb. 1.60	3.00
Phenylethyl Alcohol	lb. 2.38	2.75
Rhodinol	lb. —	—
Safrol	lb. 1.35	1.75
Terpineol, C.P., dra.	lb. .37	—
Cans	lb. .42	—
Terpinyl Acetate, 25 lb. cans	lb. .95	1.15
Thymol, U.S.P.	lb. 2.60	Nom.
Vanillin, U.S.P.	lb. 2.60	2.90
Yara Yara	lb. 1.83	2.00

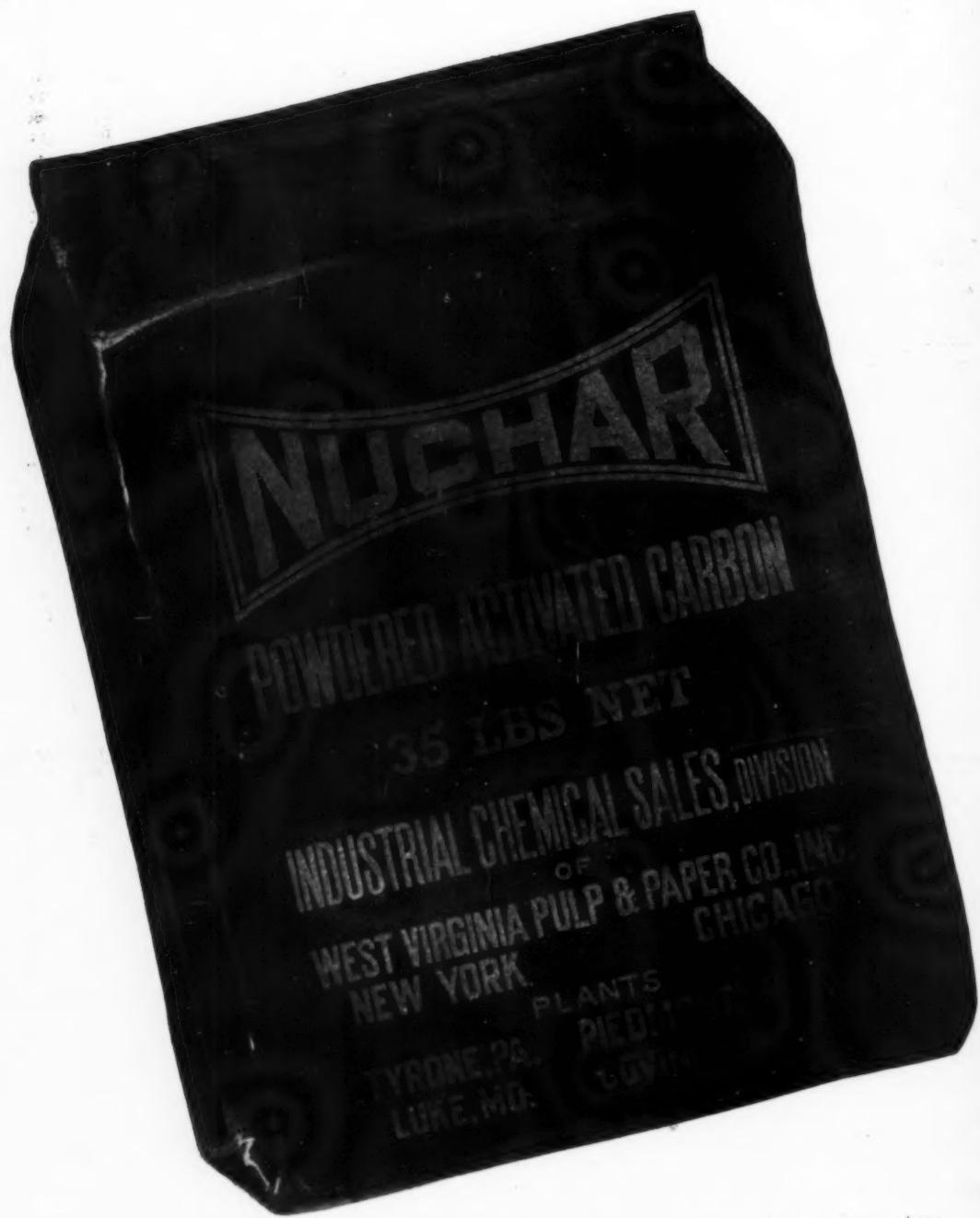
Insecticide Materials

Insect Powder, bbls.	lb. .29	.30
Pyrethrum Extract	gal. 5.75	—
20 to 1	gal. 8.53	—
30 to 1	—	—
Derris, powder—4%	lb. .31	—
Derris, powder—5%	lb. .35	—
Cube, powder—4%	lb. .31	—
Cube, powder—5%	lb. .35	—
Squill, red, dried	lb. .85	.88

Waxes

Bees, white	lb. .57	.63
African, bgs.	lb. .3750	—
Refined, yel.	lb. .5250	.6050
Candelilla, bgs. (crude)	lb. .38	—
Carnauba No. 1, yellow	lb. .8325	.8925
No. 2, N. C.	lb. .7575	.8575
No. 3, Chalky	lb. .7125	.8125
Ceresin, yellow	lb. .13 1/4	.18
Montan Wax, bags.	lb. —	—
Paraffin, ref., 125-130	lb. .0520	.0660

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Speeding Up Soap Making

ALTHOUGH the soap-making process has changed but little in recent years, there have been many improvements in machinery. Most of the advances have had for their object the handling of large quantities of materials in a shorter time. For example, electrically driven pumps have become more popular than steam pumps for transferring oils and fats from storage vessels to the boiling kettles. This is because of greater ease of location and the smaller space required, also the ease with which an electric pump can be dismantled and moved from one place to another.

A survey of patent literature reveals that many methods have been proposed for the boiling process, which is done almost exclusively by steam. Although the shape of the kettle is of no actual importance, one of rectangular cross section is still preferred because it permits the greatest space economy. Steam coils are preferred to the more costly jacketed kettles. The latter have proved to be less efficient from the thermal aspect. A water separator in the steam line prevents too much condensate from reaching the boiling soap. Motor-driven stirrers in the kettle are preferred because the time factor can be controlled accurately.

Progress has been made in the handling of liquid soap, permitting greater concentration of kettles in one section of the factory within the minimum of space. Pipelines are now often equipped with heating jackets through which steam is passed, and furnished with condensate traps at convenient

points, facilitating transfer of the liquid product from one part of the plant to another.

Developments in Cooling Frames

These pipe lines carry the boiled soap to the cooling frames. When the soap has cooled, the frames are opened up and drawn into position parallel with and adjacent to an empty base where a specially designed wooden support is arranged. Portable elevator trucks have been finding increasing use because of the ease with which they can elevate and handle considerable weights. Not only are the frame walls handled in the most expeditious manner, but the soap block is lifted directly to the cutting machine.

Although hand-operated slab-cutting machines are still in use, in some of the large factories, bars and cakes are dealt with automatically. After several slabs have been simultaneously cut by passing through the first wire frame, the table upon which they are laid is automatically retracted and passed through a second wire frame, thus parting them into cakes. Another type of machine is used for dividing soap blocks on a similar principle into slabs or bars in the first operation, and bars and cakes in the second, using both vertical and horizontal wires.

Improved Cooling Machines

With cooling machines, the cooling process is reduced to a few hours, while simultaneously improving the quality and uniformity of the product, compared with that cooled in

frames in the ordinary way. The liquid soap coming from the pans or storage tank is run into machines containing separate molds which are the size of a slab, and are equipped with water-cooling circulation whereby the material, besides being molded into slabs, is rapidly cooled. Although several methods have been proposed, the design of machines for directly forming soap into bars has not apparently proved practicable.

The hot soap is conducted into a double-walled pressure or feed vessel when cooling under pressure, the vessel being completely closed. It is provided with an agitating device and filling and inspection hole, while by means of compressed air from a compressor, the soap is forced through a pipe line into the cooling press, using a pressure varying from 28 pounds to 42 pounds per square inch.

The cooling press comprises a frame with one movable and one stationary head, with cooling plates arranged alternately with mold frames and forming chambers. The soap enters these chambers, and the air present is displaced by incoming material and is expelled at the top. After the chambers have been filled, the main cock in the water distributor, which is located beneath the chambers, is turned on, allowing water to flow round them. The soap remains under pressure during the cooling, which means that all empty spaces are filled in by the added soap.

After cooling, a crank at the far end of the frame is used to draw apart the cooling plates and mold

frames, an operation which in modern models is operated by electrical means. Adjustable press chambers permit the simultaneous production of soap slabs of different thicknesses. To do away with the necessity of compressors or similar appliances, the required pressure is exerted on the liquid soap by a lever and hand wheel. Considerable economies can be effected where cooling without pressure will suffice, since neither pressure tank nor compressor is required, but the same uniformity in density of the cooled product is never attained.

Compact Plant

Other improvements have been made in automatic soap-refining plants comprising a mixing and weighing machine arranged on a platform above the multi-rubbing mill, which is linked up with a soap strand press and soap-cutting machine. The idea underlying this construction is to make as compact an outfit as possible. The material discharged from the mixer drops by gravity into the hopper of the rubbing mill. A modified belt conveyor conveys the ground soap directly to a soap strand press, where it is pressed into homogeneous solid bars, after which the automatic cutting machine performs its function and cuts the bars into small pieces of equal weight. G. C. Downie. *Manufacturing Chemist* 14, 12-13, and 15, 64-6 (1944).

Alien Patent Abstracts Available

Abstracts of 7,000 foreign-owned United States chemical patents which have been seized by Alien Property Custodian and are now being licensed to American manufacturers are now being published by the Office of Alien Property Custodian, Chicago. Patent abstracts in each one of 33 sections under the headings "general chemistry, inorganic chemistry, organic chemistry and others" will be available for \$1, or \$25 for the entire 33. Of particular interest to manufacturers in the field of soap and sanitary chemicals are the following sections: 5., sanitary chemicals; and 20., fats, oils, soaps and waxes.

The abstracts, which were prepared by the Chicago Section of the American Chemical Society, and classi-

fied and indexed by the Science-Technology Group of the Special Libraries Association, are available through the Office of Alien Property Custodian, Chicago 3, Ill.

Textile Chemists Meet Oct. 12-14

The American Association of Textile Chemists and Colorists will devote its entire annual meeting at the Claridge Hotel, Atlantic City, Oct. 12, 13 and 14, to an appropriate technical program, including the annual Inter-sectional Contest. Arrangements for this year's meeting are under the supervision of the Philadelphia Section of the Association and the chairman is Boyce C. Bond of General Dyestuff Corp. The various sections are now setting up local committees which will be charged with the preparation of suitable technical papers.

Swiss Soap Regulations

Regulations governing the manufacture of soap in Switzerland, recently published here, provide that laundry soap must be composed of 60 per cent fats and can be manufactured only in pieces weighing 100 grams. Other provisions governing the manufacture of soap state that scrubbing and hand soap, whether in tins or in cake form cannot contain more than 30 per cent insoluble matter. Rationed soaps and substitutes must bear the producer's name, either on the package or the soap itself, and, in the case of the latter, the word "substitute" must be printed on the wrapping or the container.

Revise Low-Titer Soap Spec.

The Federal Specification for Low Titer Soap for low temperature washing (P-S-600) has just been amended as of March 1, the amended specification to become effective not later than May 1. The principal changes are a revision of the titer requirement from 25° C. to 28° C. and a shift in the iodine number from 93.0 to 105.0.

Sulfonic Acid Migration Data

E. L. McBain's recent migration data for lauryl sulfonic acid in aqueous solution are shown to indicate the probable presence of rather large amounts of nearly neutral micelles,

with compensating migrations at concentrations above the maximum in the transference curve. Below the maximum the transference numbers are in excellent agreement with the values calculated on the basis of a previously calculated average micelle whose composition and size change continuously with concentration. P. van Rysselberghe. *J. Phys. Chem.* 48, 62-5 (1944).

Reviews Detergent Advances

New developments in the detergent field, with particular reference to advances in synthetic detergents, are reviewed by L. F. Hoyt of National Aniline Division, Allied Chemical & Dye Corp., in an article "Detergents—Old and New" in the March, 1944, issue of *The American Perfumer & Essential Oil Review*. The article deals principally with characteristics and applications of "Nacconol NR," the member of the "Nacconol" family of synthetic detergents having the widest utility.

Soap Cake

A cake of soap is so constructed as to permit securing a used piece of soap to its side. Pointed members extend from the side of the soap cake for the purpose of entering the used piece of soap. Details of the shape of these are given. Carl O. Swanson. Canadian Patent No. 418,490.

Gibbs Medal To Curme

Dr. George O. Curme, Jr., vice-president and director of research of Carbide & Carbon Chemicals Corp., New York, was recently presented the Willard Gibbs Medal of the Chicago Section of the American Chemical Society. The award will be formally presented to Dr. Curme at a meeting in Chicago on May 24.

Columbia Advances Means

Dwight R. Means, has been named as assistant to the vice-president, Columbia Chemical division, of Pittsburgh Plate Glass Co., after serving with the company in the following capacities over the past 21 years: technical director, research director and assistant superintendent.

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Facts about Emulsions

CERTAIN information concerning the theory of emulsions is useful in practical formulation. Many times a fine dispersion of solid particles, as far as properties and behavior go, is in effect similar to an emulsion of one liquid in another. Dispersions are generally classified according to particle size as follows:

- (1) Coarse dispersions or suspensions—particle size 100 millimicrons or over.
- (2) Colloidal dispersions—particle size 1-100 millimicrons.
- (3) Genuine solutions—particle size below 1 millimicron.

Particles smaller than five millimicrons are not revealed even by the ultramicroscope. In terms of the above definitions an example of a coarse suspension is of finely dispersed chalk in water,—of a colloidal dispersion, a "solution" of glue in water,—of a genuine solution, one of sugar or salt in water. While many colloidal particles consist of an association of small molecules as in soap solutions, other natural products have such large molecules as to be colloidal, such as proteins, cellulose and rubber.

In order to see how surface area increases with a decrease in particle size, we may take a cube with each edge 1 cm. long. This has a surface area of 6 square cm. But if this cube were split into 1,000 small cubes, the surface area would be enlarged to 600 square cm. Calculation of surface increase with spherical globules is a bit more complicated. In general, it may be shown that when any spherical particle undergoes division into n equal-sized globules, the total surface of the smaller particles is three times the square root of n , times the surface of the parent particle.

The surface enlargement during the dispersion process of emulsification is of the highest importance, and plays a role in the action of soap and of other detergents. The splitting of material into small particles to form an emulsion must be performed against a force

called surface tension. This mechanical work is ordinarily carried out with the aid of different kinds of machines, or sometimes by simply stirring or shaking. Emulsifying agents usually lower interfacial tension against the material being dispersed. Another emulsifying effect may be produced by colloids which take up water into their internal system, such as gum tragacanth, gelatine, saponin, etc. Soap combines the properties of an electrolyte in lowering interfacial tension, and of a colloid which takes up water. It often happens that emulsifying agents combine two or more properties. Emulsification, or rather stabilization of an emulsion, may be obtained by materials which form a protective coating around the dispersed particles and so prevent agglutination.

Some emulsions are able to reverse in type, depending on the proportion of the ingredients present. For example, if a mixture of oleic acid and water is forced through a homogenizer or colloid mill, then an oil-in-water emulsion results if the mixture contains 5-40 per cent of oleic acid. If the proportion is raised to 40-70 per cent of oleic acid, a water-in-oil emulsion is obtained. This shows that a reversal in type may occur even before the maximum percentage of the dispersed phase is reached. The water-in-oil emulsion or the reversed type, can no longer be diluted with water without breaking the emulsion.

Emulsifiers with long-chain molecules which are electroactive at one end such as soap and sulfonated compounds, are especially suited for oil-in-water emulsions, as they diminish the interfacial tension to a considerable degree and are readily soluble in the dispersion medium. Lyophilic non-electrolytes such as glue and gum tragacanth are also suitable for emulsions of the oil-in-water type. They usually increase viscosity, which tends to improve the stability of the emulsion.

A number of types of homogenizing machines are discussed. These

ordinarily have to be tested with a small quantity of materials in order to find the best adjustment to give the desired degree of dispersion. A. Davidsohn. *Soap, Perfumery and Cosmetics* 16, 695-8, 718 (1943).

Surface-tension Curves

Under certain conditions the curves for surface tension against concentration of a number of surface-active agents have been shown to undergo minima, for example, the well-defined minima in the surface tension of solutions of the sodium salts of primary alcohol sulfates containing 12-18 carbon atoms. Data are presented which suggest that minima in surface tension-concentration curves are the direct result of the presence in the solutions of more than one type of surface-active material.

In this work, the effect was shown (1) in the presence of two surface-active materials, one of which is only slightly soluble in water, and (2), in the presence of two surface-active materials when the material present in the smaller proportion is a homologue of higher molecular weight, or another more surface-active analogue of the principal ingredients. Gilbert D. Miles and Leo Sheldovsky. *J. Phys. Chem.* 48, 57-62 (1944).

Fanweed Seed Oil

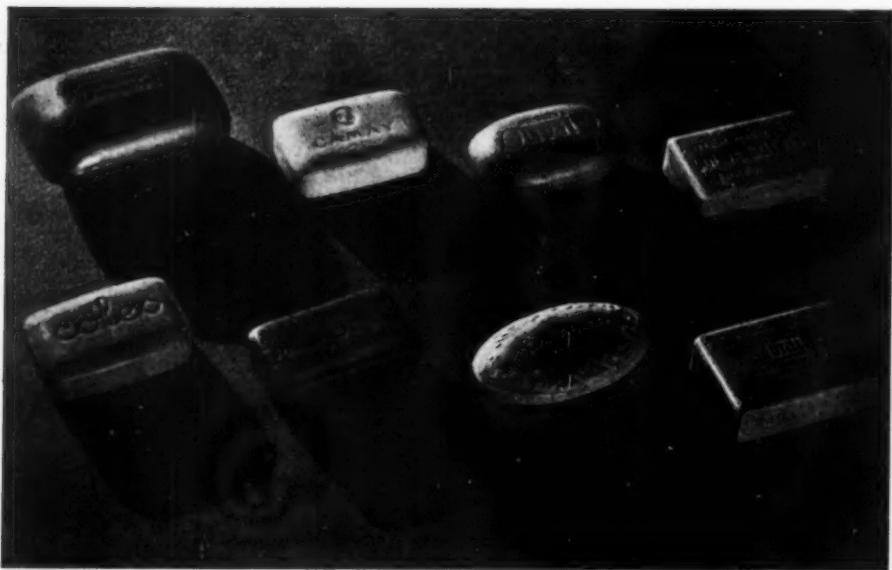
Fanweed seeds contain 33-35 per cent of oil. The composition and properties are similar to those of rape-seed oil. Fanweed-seed oil glycerides are somewhat higher in linoleic acid than those of rapeseed oil. Viscosities of the two oils at ordinary temperatures are similar, and their changes in viscosity with temperature are comparable. This property suggests that fanweed-seed oil could be used in place of rape-seed oil for various industrial purposes. *Ind. Eng. Chem.* 36, 218-9 (1944).

Steel Wool Pad

A pad is formed of steel wool in which strands of the steel wool lie parallel to each other. They are secured by transverse units staggered with respect to each other. W. S. Finnell, to Finnell System Inc. Canadian Patent No. 418,697.

YOUR HOUCHIN SOAP MACHINES ARE HELPING TO WIN THE WAR

Soap made on these machines contributes greatly to the health and comfort of the men and women of our Army, Navy and Marines, on sea, land and in the air, besides contributing valuable by-products.



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Soap Analysis by Adsorption

An adsorption method for separating and estimating the components of oil-soap mixtures has been developed, which compares favorably with aqueous alcoholic extraction analyses in accuracy and precision. It is rapid and convenient and entirely free from emulsion difficulties. Oil-soluble sodium sulfonates from petroleum are found to be very efficiently adsorbed by Attapulgus Clay, which is made the basis of the method. John M. Koch. *Ind. Eng. Chem., Anal. Ed.* 16, 25-8 (1944).

Soap in the Paper Industry

When pulp paper is coated, sizing materials are used containing combinations of clay, starch, earths, and calcium carbonates, held in suspension in many instances by means of soap solutions. They are applied to the surface of the paper as a thin film by means of coating rolls and dried with the aid of steam-heated calender rolls. Soap is considered a good agent because it helps spread the sizing easily and evenly, and because its stability permits standard mixing procedures of the coating materials. Soap is also a general aid in reprocessing scrap paper. Soap aids in removing ink, old sizing, and oils, so that the paper can be used again. Dorothy P. Bayles. *Domestic Commerce*, February 1944.

Synthetic Waxes

Residues from the distillation of fatty acids are oxidized and the oxidation products are treated catalytically so as to split off carbon dioxide. The resulting product is hydrogenated to give waxy substances. I. G. Farbenind.A.-G. German Patent No. 732,957.

Dedusting Granular Soap

Bulk comminuted soaps containing over 1 per cent of particles passing through a 140-mesh sieve, are dedusted by conducting the soap in a continuously flowing, thinly dispersed particle layer over a tortuous path with successive intervals of free gravitational flow and change of direction, counter-current to a flow of gas or air, for entrainment and separation of the finest

particles by the gas. B. L. Maxwell and C. T. Atwood, to Lever Bros. Co. U. S. Patent No. 2,328,568.

Control of Rancidity

Antioxidants which accompany natural fats in seeds may be of several different types. Many, however, have one feature in common, namely, the presence of one or more polyhydroxy-phenyl residues or ring-systems forming part of a more complex molecular structure. None of these antioxidant extracts when isolated, appear to exhibit antioxygenic activity comparable with the efficiency displayed within the seed itself. In a study of known antioxidants, it has been found that the presence of a carboxylic group in a phenolic molecule reduces antioxidant activity. The synergistic effect of certain acids such as citric acid on the antioxidant power of polyhydroxy-phenols has been confirmed. T. P. Hilditch. *Chemistry and Industry* Feb. 19, 67-71 (1944).

Conjugation in Fatty Acids

Absorption spectra analysis of conjugation in fatty acids can be used to determine the amount of two, three and four double-bond conjugation in the presence of nonconjugated unsaturated fatty acids. The method has been applied to linoleic acid. The results indicate that the recrystallization method of purification gives a product more nearly free from conjugation than is obtained by debromination procedures. W. R. Brode, J. W. Patterson, J. B. Brown and J. Frankel. *Ind. Eng. Chem., Anal. Ed.* 16, 77-80 (1944).

Preventing Odor Development

To prevent the development of undesirable odors or flavors in edible fats and oils, an active free halogen is distributed throughout the body of fatty material. The amount of halogen to be added should be insufficient to halogenize the fatty material but sufficient to modify the small amount of substances that cause undesirable odors and flavors in the fat. J. R. Short Milling Co. British Patent No. 549,703.

Cationic-Soap Film on Hands

Certain cationic soaps of the Zephiran type deposit an invisible film on the hands. This film is very resistant to mechanical removal and retains bacteria underneath. The inner surface of the film has a low bactericidal power, but the outer surface is strongly germicidal. The film is removed slowly by contact with water or animal fluids, and rapidly by alcohol or a negatively charged detergent such as common soap. B. F. Miller, R. Abrams, D. A. Huber and M. Klein. *Proc. Soc. Exptl. Biol. Med.* 54, 174-6.

Method for Studying Antioxidants

A method for studying the effect of antioxidants is based on the rapid oxidation resulting from the addition of small quantities of hematin to suspensions of linoleic acid in buffered 2 per cent starch solution. The oxidation can be measured by the Warburg or Barcroft technique. Results were reproducible and it has been possible to grade antioxidants according to their effect on the induction period. Preliminary tests have shown that compounds containing a carboxyl, keto- or RCHOH group are not good antioxidants. Pyrocatechol and its derivatives are much more active than quinol. *alpha*-Naphthol and 1,5-dihydroxy-naphthalene are good antioxidants, but *beta*-naphthol seems to have slight prooxygenic properties. The importance of the physical state of the fat or fatty acid during oxidation is discussed. A. Banks. *J. Soc. Chem. Ind.* 63, 8-13 (1944).

Skin Permeability

The skin is described as a complicated system in which there are at least three main channels of transport. These are (1) the ducts and coils of the sweat glands, (2) the hair follicles and sebaceous glands, and (3) the skin itself, the keratin matrix which links structures 1 and 2. Contact of the skin with the innumerable chemical substances used in industry has shown that the number of substances which penetrate the skin are almost unlimited. Exposure to certain chemicals for varying lengths of time may result in dermatoses which are fairly specific in nature. Only a small

quantity of the specific substance responsible for the dermatosis need penetrate the skin to produce the dermatological lesions. Among the principal specific skin irritants named are antioxidants, insecticides, resins, soaps and oils. H. A. Abramson and M. H. Gorin. *Cold Spring Harbor Symposia Quant. Biol.* 8, 272-9.

Pyrophosphate Mixture

Tetrasodium pyrophosphate compositions suitable for use in detergent mixtures are prepared in flake or shot form by dispersing tetrasodium pyrophosphate in a fluid molten magma comprising trisodium phosphate and water. The proportion of trisodium phosphate, calculated as dodecahydrate, to pyrophosphate, calculated as decahydrate, should be at least 1:5 by weight. The mixture is solidified as discrete particles, as by flaking on a flaking drum. K. Kepfer, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,326,949.

Fatty-acid Synthesis

Fatty acids are obtained by oxidizing fractions boiling at 250-420° C., of the products derived from the hydrogenation of carbon monoxide. The mixture is divided into fractions with boiling-point intervals of 40-60°. The individual fractions are oxidized at increasing temperatures of 100-20° C. Maerkische Seifen-Industrie. German Patent No. 732,719.

Rancidity Retardant

Experimental results indicate that sulphydryl compounds retard the development of rancidity in fat, but only in the presence of water and in the absence of cupric and ferric ions. The effect is attributed to the free sulphydryl radical in the compounds. P. Gyorgy, E. T. Stiller and M. B. Williamson. *Science* 98, 518-20.

Purifying Alcohol Sulfates

Fatty alcohol sulfates mixed with an excess of sulfuric acid after reaction, are freed of as much of the acid as possible by centrifuging. The partly purified product is treated with a small amount of water so that the mixture separates into two layers. E. E. van Andel. Ger. Patent No. 731,995.

Surface-active Agents

Surface-active agents having detergent properties are prepared by treating saturated aliphatic hydrocarbons with admixed sulfur dioxide and chlorine until the increase in weight is 10-30 per cent of the weight of the hydrocarbons. The resulting mixture is treated with a hot alkali solution to hydrolyze the sulfonyl chloride present to the corresponding sulfonates. The unreacted hydrocarbon is then separated by diluting with an aqueous medium and removing the upper layer. The reaction is carried out in the absence of catalysts and in the presence of actinic light at a temperature of from -20 to 20° C. E. I. du Pont de Nemours & Co. British Patent No. 549,512.

Rapid Soap Making

A continuous process for the manufacture of soap is described in which time required for the production of the soap is reduced to about 20 minutes. The Sharples Corp. British Patent No. 549,387.

Partitioned Soap

In order to facilitate partitioning of a soap bar, the soap mass in a coalescent condition is divided and then the surfaces rebonded to form a rearranged crystalline texture in the plane of the rebonded surfaces. Cuts are placed in the bar in alignment with this plane to weaken but not sever the mass in this zone. John W. Bodman, to Lever Brothers Ltd. Canadian Patent No. 418,890.

Interfacial Tension

The interfacial tension of solutions of secondary sodium alkyl sulfates against Stoddard solvent, mineral oils, and a saponifiable oil, was measured at 20°C. A sharp break, or "critical concentration" occurs in the curve for interfacial tension against concentration, which is quite independent of the oil phase.

The addition of electrolytes to the alkyl sulfate solution has a very pronounced effect in reducing both interfacial tension and the critical concentration. This effect is due almost entirely to the ions of opposite sign to

that of the long-chain ions. Divalent positive ions have more effect than univalent positive ions. The latter fall into a lyotropic series. The ions which approach closer to the interfacial film or the least hydrated ions, have the greater influence in lowering interfacial tension. The facts can be satisfactorily explained on the basis that the single long-chain ion is the surface-active entity. R. G. Aiken. *J. Soc. Dyers & Colourists* 60, 36-40 (1944).

Wool Cleaning Aid

The difficulty of removing mineral oil from wool seems in large part to be due to the high interfacial tension between mineral oils and an aqueous detergent solution. The addition of a popular compound such as oleyl alcohol reduces the interfacial tension and promotes the cleaning process. Such a polar compound should be more oil-soluble than water-soluble to attain the desired result.

It has been shown that a stable 1:1 mineral oil-polar compound complex is present in the interface over a wide range of concentrations. The presence of this 1:1 complex provides the basis for the great stability of emulsions stabilized by mixtures of oil-soluble and water-soluble polar compounds, for example, mixtures of high alcohols and sodium alkyl sulfates.

Addition of glycerol monooleate reduces the interfacial tension of mineral oil against water to an extremely low figure. It is effective in very low concentrations. Solutions of glycerol mono-oleate in mineral oil are micellar in nature. This is one of the few cases reported of the formation of micelles in hydrocarbon systems. R. C. Aiken. *J. Soc. Dyers & Colourists* 60, 41-3 (1944).

Nonhygroscopic Perborate

Water-soluble, nonhygroscopic sodium perborate is made by mixing the monohydrate of the perborate with sodium chloride and not over 3 per cent of potassium iodide. The amount of sodium chloride is sufficient to decrease the alkalinity of the perborate appreciably. N. M. Molnar. Canadian Patent No. 418,660.

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U.S.I. CHEMICAL NEWS

April



A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries.



1944

Lists Novel Uses for Claisen-Type Condensations

Current Literature Reveals Many Promising Fields for Investigation

Serving as the "building blocks" from which an ever-widening variety of organic end products are built, such Claisen condensation products as ethyl acetoacetate, ethyl sodium oxalacetate and ethyl benzoylacetate are now classed among the most war-important chemicals. Recent issues of CHEMICAL NEWS have described the use of these U.S.I. products in the manufacture of critically-important atebrin, and in the synthesis of sulfamerazine, vitamin B₁, dyestuffs, and other products.

The potentialities of the Claisen type of condensation reaction, however, reach far beyond its present use. A quick review of 1943 chemical literature, for example, will reveal 50 or more references to Claisen reactions of significance to many research chemists in the organic field. A few of the more interesting references are summarized here:

Pyrazole compounds. Sodium acetoacetic ester condenses with phenyl isothiocyanate to form the sodium salt of α -carbethoxyacetothioacetanilide. The addition of phenylhydrazine forms the 1-phenyl-3-hydroxy-5-pyrazolone anil. This may be distinguished from its isomer 1-phenyl-3-anilino-5-pyrazolone because with *p*-nitrosodimethylaniline the latter gives a brilliant magenta colored azomethine dye while the former gives only a dull bluish magenta.

Amino acids. (1) Substituted acetoacetic esters dissolved in 80% H₂SO₄ and treated with butyl nitrite give good yields of α -oximino esters. Upon reduction, these esters give amino acids or esters in 69-89% yield. Among those prepared were α -aminobutyric acid, norvaline, norleucine, aspartic acid, glutamic acid, phenylalanine, and *o*-methyltryptophane.

(2) The condensation of aromatic diazo compounds with compounds of the alkylacetoacetic ester type may be applied to the synthesis of α -amino acids, derivatives of 5-pyrazolone, esters of cyclic β -keto acids, and cyclic β -keto nitriles. The reaction has been used in the synthesis of alanine, valine, leucine, isoleucine, and phenylalanine.

(Continued on next page)

Butyl Alcohol Used in New Coating Compositions

New compositions containing polyvinyl acetate, suitable both for coating and baking on metals, and for the manufacture of films, are described in a recent patent. The composition includes a melamine-formaldehyde resin which has been heated to affect reaction with a butyl or benzyl alcohol.

A second patent awarded to the same scientists describes another group of coating compositions useful for various admixtures and similar purposes. These compositions comprise polyisobutylene and a melamine-formaldehyde resin which has previously been reacted with butanol.



Chocolate bar in these Army emergency field rations is fortified with vitamin B₁. Synthesis of vitamin B₁ and other war-important compounds are using vast quantities of ethyl formate and other U.S.I. products.

Ethyl Ether Now Available in Quantity

Although huge quantities of ethyl ether are required in the manufacture of smokeless powder, ether production has been maintained at levels which assure availability for other war and civilian uses. As we go to press with this issue of Chemical News, the ether situation is such that U.S.I. can offer the product for sale in quantity.

Important Uses

Because of its excellent solvent properties, ether is widely used as a vehicle for fats, oils, waxes, gums, resins and other materials. It is used in extracting fats and in purifying chemicals by extraction and crystallization. It has been used for many years by the shoe, hat, and textile industries for dry cleaning and spot removal. It is also used as a reagent in the synthesis of several important chemicals.

Although the special precautions necessary in using ether, due to its inflammability and tendency to form oxides, involve some inconvenience, this is far outweighed by its solvent and chemical advantages. Its present availability is serving to accelerate wider utilization of these advantages.

Extracts Vitamin E by Novel Process

A recently awarded patent describes the following process for making concentrated vitamin E products. Soybean oil, or other vegetable oils containing vitamin E are subjected to high-vacuum, unobstructed-path distillation. A fraction is separated containing most of the vitamin E and substantial quantities of the impurities contained in the oil. This fraction is then extracted with a solvent selected from a group which includes ethyl alcohol and ethyl ether. Finally the solvent is distilled off effecting further concentration of the vitamin E.

New Replacement for Alkyd Resins Made Available

Aroplaz 1306 Found Suitable for Wide Range of Interior Coatings

In view of the currently tight situation on phthalic alkyd resins, and the prospect that this situation will continue for the next six months, announcement of a satisfactory substitute has aroused wide interest in the protective coating industry. Cancellation of the small order exemption clause from Order M-139 has also served to quicken interest in the product.

S & W Aroplaz 1306, manufactured under a new process developed by U.S.I., has definitely established itself as a practical alternate for phthalic alkyds. It may be used for all types of interior architectural and industrial coatings, white and colored. In water- and alkali-resistance, and in flexibility, Aroplaz 1306 compares favorably with modified phenolic and maleic resin-and-oil combinations.

Color Retention

Initially very pale, the staining properties of Aroplaz 1306 are so slight that white enamels can be made approaching the whiteness obtained with alkyds. Color retention is similar to maleic resin-and-oil combinations. In gloss and gloss-retention it is superior, in both clear and pigmented films, to many alkyds.

Specifications of Aroplaz 1306 are:

Non-volatile:	75% by weight
Solvent:	25% by weight— Mineral Spirits
Acid Number: (solid resin)	10-20
Color: (75% solids solution)	7- 9 (G-H 1933)
Viscosity: (75% solids solution)	Y-Z1
Viscosity: (when thinned further to 50%-solids with mineral spirits)	E-F
Weight per gallon:	7.9 lbs. (at 20° C.)
Reportable oil content:	66% by weight of non-volatile

Availability

The current raw material situation makes Aroplaz 1306 available for prompt shipment without restriction.



Welcome news for coating manufacturers is the announcement that Aroplaz 1306 is now available without restriction.

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April



U.S.I. CHEMICAL NEWS

1944

Simple New Color Test Detects Presence of Sulfas

Requiring only hydrochloric acid and ordinary newspaper, a new test promises to fill the need for a quick, simple method of detecting the presence of sulfonamide compounds in urine. Reported in a recent issue of War Medicine, the method requires neither measurement of the reagent nor filtration of the specimen.

The method utilizes the color reaction which takes place between crude cellulose and the arylamine group in the presence of acids. A blank strip of newspaper is moistened with a drop or two of the specimen; then a small drop of dilute hydrochloric acid (1:4) is placed on the moistened area. An immediate color change to yellow or orange indicates the presence of a sulfonamide compound.

Uses Chlorophyll in Air Conditioning

A solution of chlorophyll in a mixture of ethyl alcohol and water is reported in a new patent to have a definite freshening effect when sprayed into the air. The solution may be used alone, or it may also be used in association with formaldehyde.

Corn Protein Plastic Substitutes for Shellac

Zein, the protein extracted from corn, is dissolved in alcohol to form a lacquer-like solution which dries to a hard, tough, continuous film. This film, according to a recent news item, is superior to shellac in water-repellancy and has taken over many applications in which shellac was used before supplies were cut off. Among the many essential war uses in which zein alcohol solutions are employed is the coating of the paper used to wrap vital airplane parts and other equipment for overseas shipment.

The new lacquer is reported to be of relatively low viscosity so that good thickness can be applied in a single coat. In addition to its insolubility in water it is said to possess complete resistance to oils and greases. Films of the new material blush in much the same manner as shellac.

Claisen Condensations

(Continued from preceding page)

Alkylation of ethyl acetoacetate. (1) Potassium tertiary-ethyl oxide in t-ethyl alcohol used as a condensing agent gives ethyl α-isopropylacetoacetate, ethyl α-isobutylacetoacetate, ethyl α,α-diethylacetoacetate, and ethyl α,α-dibutylacetoacetate.

(2) Boron trifluoride used as a condensing agent gives ethyl α-isopropylacetoacetate, ethyl α-cyclohexylacetoacetate, tert-butyl α-tertbutylacetoacetate, and ethyl α-benzylacetoacetate from ethyl acetoacetate and the corresponding alcohol or ester.

(3) Quaternary ammonium salts such as benzylidimethylphenyl ammonium chloride or the methiodide gramine (β-dimethyl aminomethylindole) react with the sodium derivative of ethyl acetoacetate to give alkyl derivatives.

Benzquinoline derivative. β-Naphthylamine and acetylacetone form an anil which, upon cyclization with HF unexpectedly gives a linear benzquinoline. Little has previously been known about this type of compound.

Coumarin derivatives. (1) Ethyl acetoacetate condenses with β-resorerylic acid or its methyl ester, resacetophenone, or similar phenolic compounds in the presence of aluminum chloride to form 5-hydroxy coumarins (otherwise difficult to synthesize) in good yields. For example, 4-nitroresorcinol and ethyl acetoacetate, with AlCl₃, form 5-hydroxy-6-nitro-4-methylcoumarin.

(2) Ethyl acetosuccinate condenses with various phenols in the presence of condensing agents such as H₂SO₄, POCl₃, P₂O₅, or AlCl₃ to form coumarin-3-acetic acids and their derivatives. For example, resorcinol and ethyl acetosuccinate, in the presence of POCl₃, give ethyl 4-hydroxy-4-methylcoumarin-3-acetate.

Substituted guanamines. A group of recent patents describes the use of alkali alcoholates as condensing agents in the formation of substituted guanamines. For example, an alkali alcoholate will cause phenyl biguanide to react with ethyl acetate to form 4-N-phenylacetoguanamine; or biguanide and methyl laurate to form lauroguanamine.

Thiazolidenopyrimidines of barbituric acid type. The use of sodium ethoxide in ethanol as a condensing agent for the reaction of substituted malonic ester with 2-aminothiazolidine makes possible the synthesis of mono-substituted thiazolidenopyrimidines. These are further alkylated in the presence of alcoholic sodium ethoxide to form the disubstituted compounds which are analogs of barbituric acids such as veronal, neonal, ipral, and phenobarbital.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Paint brushes, in which a new type of synthetic bristle replaces hog bristle, are offered in a range of different sizes and types. New bristles, of cellulose acetate, are said to taper lengthwise and to have exterior channels which tend to hold and feed the paint, instead of the flat ends of natural bristle. (No. 799)

U.S.I.

Rubber filters are being used with unusual success on several critically important war jobs, according to information recently released. Filter screens having as many as 6,400 holes per square inch can be compounded to withstand abrasion, high temperatures, strong chemicals. (No. 800)

U.S.I.

Chemical-resistant resurfacing of concrete, wood, or brick floors, is said to be readily accomplished with a new patching compound. Maker states that compound sets up ready for traffic in one hour, is resilient and resistant to chipping, cracking, and wear. (No. 801)

U.S.I.

Three new intermediates, useful in the synthesis of dyestuffs, pharmaceuticals, and other organic chemicals are now in commercial production. They are: 3:4 dichlor tolune; 3:4 dichlor benzotrichloride; 3:4 dichlor benzoic acid. (No. 802)

U.S.I.

A new series of coatings made of thermosetting resin-base material which cures at 300° F., is said to produce films which are insoluble in practically all organic solvents, vegetable and petroleum oils, acids and alkalies. High salt-spray abrasion, and weathering resistance are also credited to these coatings now being offered for essential war work. (No. 803)

U.S.I.

Better bonding of protective coatings to steel and iron surfaces is the stated result of a one-operation treatment with a new surface-conditioner. Product is said to inhibit rusting prior to painting, and to impart a microscopic coating which assures firm, tenacious bonding of paint. (No. 804)

U.S.I.

A polyamine salt replacement is offered for use in the production of bouillon, soup, stews, etc. The product is sodium glutamate, and is said to contain many amino acids desirable from flavor and nutritional standpoints. (No. 805)

U.S.I.

A wood priming coat, promising superior bonding of high scratch-resistant finishing lacquers to furniture and other objects, is announced as a development which will be available after the war. (No. 806)

U.S.I.

A new cleaner, specially formulated for removing gummed labels from plastic glass sheets and parts, is announced. (No. 807)

U.S.I.

Protecting concrete as well as brick and stucco surfaces against moisture is reported to be feasible with a new product made of irreversible inorganic gels. The product is said to react with the lime hydrate of the masonry to form a fine, tough, welded-on coating which permits the masonry to breathe, but impedes absorption of water. (No. 808)

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- Ethyl Acetate
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- Diethyl Oxalate
- Diamyl Phthalate
- Dibutyl Phthalate
- Diethyl Phthalate
- Diethyl Carbonate
- Ethyl Chloroformate
- Ethyl Formate

OXALIC ESTERS

- Acetoacetanilide
- Acetoacet-ortho-aniside
- Acetoacet-ortho-chloranilide
- Acetoacet-paro-chloranilide
- Ethyl Acetoacetate
- Ethyl Benzoylacetate
- Ethyl Sodium Oxalacetate

PHTHALIC ESTERS

- Ethyl Acetoacetate
- Ethyl Benzoylacetate
- Ethyl Sodium Oxalacetate

OTHER ESTERS

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- Ethyl Ether Absolute—A.C.S.

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- Natural
- Synthetic

INTERMEDIATES

- Acetoacetanilide
- Acetoacet-ortho-aniside
- Acetoacet-ortho-chloranilide
- Acetoacet-paro-chloranilide
- Ethyl Acetoacetate
- Ethyl Benzoylacetate
- Ethyl Sodium Oxalacetate

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PRODUCTS

AND PROCESSES

Neutral Liquid Soap

A quaternary triethanolamine salt of ethylene diamino-tetraacetic acid, or a mixture of this and alkali salts of the acid is added to liquid soap to give a pH of 7-8 in a molar solution. T. Gollasch. German Patent No. 731,241.

Alkaline-salt Cleaner

Aqueous solutions of caustic soda, di- and trialkali phosphate, and sodium silicate are combined with an aqueous solution of an alkali metaphosphate. After mixing, the combined solution is spray-dried to give a cleaning agent. Chemische Fabrik J. A. Benckiser G.m.b.H. and F. Draisbach. German Patent No. 732,785.

Organic Water Softeners

To prevent precipitation when soap is used with hard water, the water is first treated with an amount of a compound such as the following, sufficient to prevent precipitation of hard-water soaps: Pyrimidine, uracil, thymine, cytosine, purine, xanthine, guanine or adenine. W. O. Teeters, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,327,323.

Soap Additive

To prevent decomposition and precipitation of soap in hard water, an alkali metal salt of a halogen-substituted polyacrylic acid, such as the sodium salt of *alpha*-chloropolyacrylic acid, may be added to the water first, or may be incorporated in hard-water soap. H. R. Dittmar, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,327,302.

Dry-cleaning Compositions

Water is incorporated as the dispersed phase in a dry-cleaning solvent such as V. M. P. naphtha with the aid of a salt of a sulfonated aliphatic organic compound containing an alkyl group, such as sodium lauryl sulfate or sodium cetyl sulfate. The salt acts both

as a dry-cleaning assistant and as an emulsifying agent for the water.

The salt used may also be of a sulfonated aliphatic mono- or di-carboxylic ester of a monohydric alcohol, such as sodium butyl sulforcinoleate or sodium lauryl sulfoacetate, or in the second instance, the disodium salt of monolauryl sulfosuccinate. L. H. Flett, to Allied Chemical & Dye Corp. U. S. Patents No. 2,326,772, 2,327,182 and 2,327,183.

Soap in Glass Making

For grinding the edges of hollow glassware, the hand holding the glass is soaped to enable the glass to rotate freely while being held. For this purpose household soap has been replaced by a liquid soap made of 3 parts of rosin, 3 of synthetic drying oil, and 2.4 kg. of potash lye, the mixture being boiled together for 4 hours. V. A. Krechnar. *Legkaya Prom.* 1943, No. 3-4, 13; through *Chem Abs.*

Stabilizing Agent

Powdered cleansing preparations are rendered stable to storage by adding to their ingredients a small proportion of a compound of the general formula, RCH:NCHXN:CHR, where R presents *ortho*-hydroxyaryl residues which may carry substituents such as alkyl or alkoxy, and X is an alkyl group. W. Baird, A. Hill, J. E. G. Harris, S. H. Oakeshott, W. J. Wilson and Imperial Chemical Industries, Ltd. British Patent No. 549,240.

Abrasives Pads for Scouring

Fibrous material such as textile or jute waste in the form of tangled filaments, has its outer portions treated with a powdered abrasive such as pumice, mixed with a liquid binder such as a synthetic resin solution. The abrasive-binder mixture is intended to penetrate the surface sections of the body to a substantial depth and coat the fibrous filaments in it, but leave an interior soft elastic core free of abrasive

mixture. The binder used is such that it will harden and become insoluble when heated. The body so treated is partially dried to reduce the binder to a tacky condition, after which the body is molded to the shape desired. The molded body is baked in order to set the binder and make it insoluble, so as to fix the abrasive to the fibrous filaments. C. R. Loeffler to Downy Products Co. U. S. Patent No. 2,327,199.

Solid Bleaching Agent

Stable dry compositions for use in the preparation of aqueous solutions for bleaching, are prepared by mixing a solid inorganic per compound such as sodium perborate, with solid organic carboxylic-acid anhydrides such as anhydrides of succinic, benzoic, maleic or glutaric acids. E. I. du Pont de Nemours & Co. British Patent No. 549,015.

Washing Aid

Amino-stilbenes with one or more 1,3,5-triazine rings per molecule are used as washing aids. B. Wendt, to I. G. Farbenind. A.-G. German Patent No. 731,558.

Cleaning Agent for Wool

Raw wool is washed with a mixture containing a maximum of 20 per cent of soap, and a minimum of 80 per cent of neutral inorganic alkali salts. Oranienburger Chem. Fabrik A.-G. German Patent No. 730,775.

Degreasing Agent

A composition for degreasing metals preliminary to anodic electroplating consists of 233 cc. of oleic acid, 472 cc. of sulfonated castor oil, 26 ounces of sodium orthosilicate and 1 gallon of water. Wm. Franklin. British Patent No. 549,375.

Metallic Soap

Aluminum soap compositions are prepared by saponifying hydrogenated castor oil and the corresponding fatty acids with caustic soda. The aluminum soap is precipitated by reaction of the alkali soap with aluminum sulfate. F. J. Licata, to National Oil Products Co. Canadian Patent No. 418,734.

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Silicate Soda
Metasilicate
Tri Sodium Phosphate

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No. 2,340,328, Mothproofing Composition, patented February 1, 1944 by Hilton Ira Jones, Wilmette, Ill., assignor to Hizone Products, Wilmette, Ill. A mothproofing composition containing magnesium silicofluoride and a lower alkanolamine silico-fluoride in a ratio of about 1-3 to 1, respectively.

No. 2,340,654, Manufacture of Detergents, patented February 1, 1944 by Lawrence H. Flett, Hamburg, N. Y., assignor to Allied Chemical & Dye Corp., New York. In the process of producing a detergent mixture of higher alkyl benzene sulfonates by forming a benzene hydrocarbon condensation product of a poly-component non-aromatic hydrocarbon mixture of mineral origin and sulfonating the condensation product, the improvement which comprises distilling the benzene hydrocarbon condensation product, collecting a fraction of the distillate containing higher monoalkyl benzene compounds, and sulfonating resulting higher monoalkyl benzene compounds.

No. 2,341,657, Production of Disinfectants and Pest Exterminating Agents, patented February 15, 1944 by Karl Wilhelm Rosenmund, Kiel, Germany, vested in the Alien Property Custodian. Process of producing disinfectants and pest exterminating agents, comprising saponifying triphosphates of phenolic compounds selected from the group consisting of phenols, alkylated phenols, halogen-substituted phenols and halogen- and alkyl-substituted phenols by adding a saponifying agent thereto in order to

form bisphenolphosphates and free phenols, the latter being held in solution or dispersion by the bisphenolphosphates.

No. 2,342,448, Pest Control, patented February 22, 1944, by Euclid W. Bousquet, Wilmington, assignor to E. I. du Pont de Nemours & Co., Wilmington. 2, 3-dithiocyanato-2,4,4-trimethylpentane.

No. 2,342,786, Bar Soap Composition, patented February 20, 1944 by Ferdinand Bornemann and Hans Huber, Wiesbaden-Biebrich, Germany; vested in the Alien Property Custodian. A bar soap consisting essentially of a sodium soap of a fatty acid normally precipitable by calcium salts in water, and from one to fifteen per cent by weight of sodium tripolyphosphate rendering the soap non-precipitable by calcium salts in normally hard water, the soap containing sufficient water to maintain the soap in bar form, the bar being stable against frosting.

LIQUID TOILET SOAPS

(From Page 32)

method, still penetrates colloids, as long as they are in the liquid phase, its resistance increases during the formation of a gel, and the pH readings are lower. This observation can be made by leaving a 1 per cent potassium stearate solution in the sample cup of Coleman's electrometer, until a gel forms. Correct determinations of soap solutions can only be made then in the liquid phase, even if a higher temperature has to be used, for which on Coleman's model 31 provisions have been made.

In alcoholic solutions the alkali soaps are less hydrolyzed than in water. Alcohol has not only a smaller dielectric constant, which reduces the electrolytic dissociation of the soaps, but it also alters the colloidal nature of soap solutions. A certain percentage of alcohol suppresses the hydrolysis completely. As hydrolysis is greater in the case of the higher soaps, more alcohol has to be used to overcome it. According to figures from S. V. Scharpinger⁸ the following percent-

ages of alcohol are necessary for this purpose.

Percent
Sodium Laurate..... 67
Sodium Myristate..... 75
Sodium Palmitate..... 84
Sodium Stearate..... 95

By adding phenolphthalein to the perfectly neutral 10 per cent potassium soaps of the saturated series, for potassium caprate up to potassium stearate, a distinctive increase in the shade of the pink color, caused by the increased hydrolyzation can be observed. A high Iodine number in soaps made from C₁₈ molecules not only lowers the titre and the pH values, but also improves the detergent values at 80°F, as indicated at the bottom of Table 6. A neutral potassium soap from soya bean oil, corn oil, cottonseed oil or coconut oil, with a pH of about 10, may be satisfactory for cleaning the hands, while for shampoos it may be too alkaline.

Lowering of pH can be accomplished by adding a certain percentage of triethanolamine soaps or a small amount of castor oil fatty acid or rosin. The ricinoleic acid with its additional solubilizing group—OH, and abietic acid with its C₂₀ molecule, have such a high affinity to the soap molecules that their presence acts almost as a solvent. Twenty per cent potassium soaps with about 6 per cent rosin content may have as much as 1 per cent unsaponified fatty acid and still not be cloudy at room temperature. Rosin is one of the best binders between potassium soaps and unsaponifiable matter or mineral oil. The addition of a 1/2 per cent of free fatty acid to a 20 per cent liquid soap with a pH of 10 lowers the pH as much as to 9.6.

In concluding this discussion it should be emphasized that soaps which are excellent as toilet soaps at room temperature, may be poor detergents at 212°F. Potassium stearate showing hardly any lather at 80°F surpasses the sudsing ability of coconut oil soap at higher temperatures. The detergent value of a 1 per cent potassium stear-

(Continued on Page 75)

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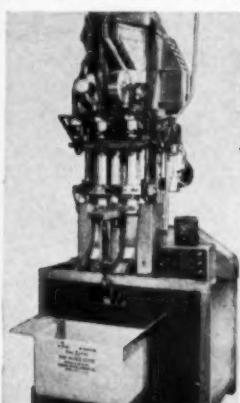
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EQUIPMENT AND BULLETINS

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York 1, mentioning the number of the item.

101—Treatise on Benzoates

Seydel Chemical Co., Jersey City, N. J., is distributing a treatise on Benzoates in the form of a $3\frac{1}{4} \times 6\frac{1}{4}$ ", 28 page booklet. Covered in the treatise are the history of benzoic acid; how benzoate protects food; the results of tests with benzoic acid; government benzoate investigation and present laws; state regulations on the use of benzoate of soda; uses of benzoate in foods; and a few suggestions on the use of benzoate in gums, waxes, starch, hand lotions and cosmetics are told. A partial list of Seydel antiseptic chemicals is also included in the booklet.

102—Propylene Glycol Booklet

A new product, propylene glycol N.F. has been developed by Dow Chemical Co., Midland, Mich., and was announced last month. A booklet containing technical information about propylene glycol, N.F. can be secured by writing the company at Midland. Designed for use as a plasticizer and chemical intermediate for food processing, it can also be used in cosmetic and pharmaceutical manufacture because of its diversified solvency and preservative properties. Propylene glycol is being used as a carrier, emollient, humectant and preservative in many types of cosmetics. In addition to providing water retention properties, it acts as a softening and soothing agent, according to the booklet.

103—Substitute Wax Bulletin

A new technical bulletin, "Waxes for Today and Tomorrow" that provides ready references to mineral and vegetable wax substitutes,

replacements and extenders has just been issued by Distributing & Trading Co., 444 Madison Ave., New York 22. The booklet lists 36 different kinds of waxes together with their specifications, and current prices. Thus, it acts as a reference book for production men who may have occasion to modify their formulae or experiment with new ones.

104—Book Gives Sulphur Uses

"The Use of Sulphur in the Control of Truck Crop and Cane Fruit Insects and Diseases," compiled by Alfred Fenton and S. W. Clark of the Agricultural Department of Texas Gulf Sulphur Co., Houston, recently was issued in revised form. After telling something of the history of the early uses of sulphur and its forms, selected applications of its use on various plants for diseases and insect infestations are briefly outlined. The 85-page volume is concluded with a simple remedy for eye irritation, bibliography and scientific names and subject indices.

105—Hollingshead Cleaners Folder

R. M. Hollingshead Corp., Camden, N. J., is circularizing a folder on "Sweet Smelling Cleaners" that describes the Hollingshead line of liquid scrub soaps scented with pine and sassafras odors, and explains the characteristic cleaning action and use of each. On the last page of the folder is a complete list of Hollingshead disinfectants, cleaners, polishes and other sanitary supplies.

List Drug Assn. Speakers

Lieutenant Colonel Ralph R. Patch, Signal Corps, Office of the Surgeon General of the U. S. Army and Fred J. Stock of the War Production Board will be the guest speakers at the first general session of the annual convention of the American Drug Manufacturers Association at the Homestead, Hot Springs, Va., May 2. At

the scientific section, May 1, Captain William W. Hall (M. C.) U. S. Navy, a member of the Research Division of the Bureau of Medicine and Surgery of the Navy Department, will be the guest speaker.

Michigan Assn. Elects Officers

The following officers and members of the executive committee of the Allied Drug and Cosmetic Association of Michigan were elected at a recent meeting at the Detroit Leland Hotel: president, E. E. Van Allsburg, Ecclesone Chemical Co.; vice-president, Gordon Buck, Standard Oil Co. of Indiana; secretary, Maison G. deNavarre, Maison G. deNavarre Associates; treasurer, Stewart Cowell, J. T. Baker Chemical Co.; executive committee: William M. Russell, Monsanto Chemical Co.; A. R. Vicary, Mark W. Allen Co.; A. S. Bedell, Beauty Counselors, Inc.; and Donald Melville, Frank W. Kerr Co. Following the installation of officers, Dr. L. S. Roehm of Dow Chemical Co., the guest speaker, spoke on the manufacture of magnesium. Dr. Roehm's talk was followed by motion pictures dealing with magnesium.

Western Chemical Moves

Western Chemical & Manufacturing Co. soaps, chemicals and sanitation products, Chicago, moved Mar. 24, from 2500 W. 21 St. to 2500 W. 21 Street, Chicago.

LIQUID TOILET SOAPS (From Page 73)

ate solution taken on Detroit water at 80°F is about 7.2 cc, at 212°F less than 4.5 cc. At a temperature of 212°F the detergent values which coincide with the results of actual washing tests line up in the following manner: stearate, oleate, palmitate, myristate, linolenate, laurate, ricinoleate.

References

- ¹ C. Shiepel, Seifensiederzeitung 41, 347 (1914).
- ² Kolloid Zeitschrift 75, 1943 (1936).
- ³ Seifensiederzeitung 52, 323 (1925).
- ⁴ After 5 minutes.
- ⁵ Jour. Ind. Engin. Chem. 8, 701 (1916).
- ⁶ Kololid Ztschr. 7, 208 (1910).
- ⁷ Arch. Pharmaz. u. Ber. Dtsch. Pharmaz. Ges. 230, 561 (1892).
- ⁸ Dissertation Karlsruhe 1911.

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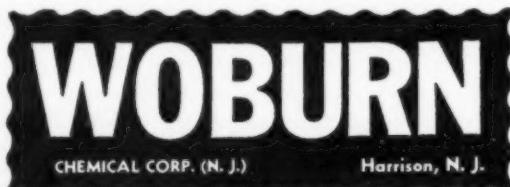
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Committee D-12 Meets

THE annual meeting of Committee D-12 on Soaps and Detergents of the American Society for Testing Materials was held at the Hotel New Yorker, New York, March 13 and 14, attendance reaching the record figure of approximately 75 at various sessions. There was very little new material on test methods presented at this session, but a number of new specifications came up for discussion. A sub-committee drew up a new ASTM specification for liquid toilet soap, based on the Federal Specification (P-S-618a) with several minor changes, as its starting point. Representatives of the potash liquid soap industry are admittedly not at present well represented on Committee D-12, and before going further with framing their tentative specifications, it is planned to invite additional representatives from the industry to take part in the discussions.

Also discussed at the soap specification session were possible specifications for fig soaps and tall oil soaps. Considerable interest in a specification for the latter product was shown and a tentative specification will shortly be drawn up for submission at the next meeting.

Members of Committee D-12 were advised by Dr. J. E. Simpson of the Office of Quartermaster General, Army Service Forces, that a number of changes are in prospect in the specification for the Army's G.I. soap. It is planned to reduce permissible water content of the G.I. bar to 34 per cent, and tolerances on free acid and alkali are also scheduled for reduction. A change in maximum and minimum limits on alcohol insoluble to 4 to 8 per cent is also being considered. Complete details of the changes in the specification will probably be released by the Office of the Quartermaster in the course of the next month. Dr. Simpson also referred briefly to recent changes that have been made in the OQMG specification for "all-purpose" bar soap.

Among other new developments in test procedures reported at the D-12

session is a new standard soiled cloth. Developed by General Dyestuff Corp., New York, for use in the testing of detergent properties of soaps, experimental samples are currently being sent to soap chemists for trial test runs.

The report of the sub-group on definitions was presented by Dr. Charles A. Marlies, College of the City of New York. It included suggestions for revision of thirteen existing definitions, and four completely new definitions, all listed below. The new definitions are indicated by an asterisk.

Soap—The product formed by the saponification or neutralization of fats, oils, waxes, rosins, or their acids with organic or inorganic bases.

Note—Various descriptive adjectives are applied to the name soap to indicate certain characteristics as follows:

- (a) Method of manufacture, for example, boiled soap, cold-process soap.
- (b) Physical form, for example, bar soap, chip soap, liquid soap, powdered soap.
- (c) A special physical property, for example, floating soap, low-titer soap, milled soap, soft soap.
- (d) A particular ingredient, for example, grit soap, tar soap.
- (e) A particular application, for example, automobile soap, dry-cleaning soap, salt-water soap.

Alkaline Detergent—A water-soluble alkali or alkaline salt having detergent properties, but containing no soap.

Anhydrous Soap—Soap, free from water and all other concomitants. Note—The word "anhydrous" usually means free from water, but in the soap industry it has the additional meaning stated.

Anionic Detergent*—A detergent which produces negatively charged colloidal ions in solution.

Blended Soap—(for example Blended Palm Oil Soap)—A soap in which more than half but not all the fatty acid stock is from the source stated.

Builder—A material added to soap or synthetic detergent to improve its effectiveness under the condition of use.

Built Soap—A mixture of soap and one or more builders containing not less than 50 per cent of anhydrous soap.

Cationic Detergent*—A detergent which produces positively charged colloidal ions in solution.

Cleaning—A process of removing undesirable matter.

Detergency—Effectiveness of cleaning.

Detergent—A composition which cleans.

Dry Cleaning—A process of cleaning in a liquid medium, which is substantially non-aqueous.

Dry-Cleaning Detergent—(Dry-Cleaning Aid)—A detergent which when added to a dry-cleaning solvent increases cleaning effectiveness.

Filler—A material added to a soap or other detergent which does not improve its attractiveness or its effectiveness under the conditions of use.

Scouring—A wet process of cleaning by chemical or mechanical means, or both.

Soap Powder—A mixture in powdered form of soap and one or more alkaline detergents, but principally composed of the latter.

Soil—Undesirable matter to be removed by cleaning.

Soil-Redeposition—Deposition of removed soil on a surface during a cleaning process.

Straight Soap (for example Straight Palm Oil Soap)—A soap in which the fatty acid stock is solely from the source stated.

Surface Active Agent*—A composition which when added to a liquid medium modifies the properties of the medium at a surface or interface.

Note—"Surface Active Agent" is the general term which includes soluble detergents used in liquid medium, wetting agents and foaming agents.

Synthetic Detergent—A detergent produced by chemical synthesis and comprising an organic composition other than soap.

Titer* (pron. té'ter) (of fatty acids)—The maximum temperature achieved during the solidification of fatty acids, which have been cooled below the melting point.

Washing—A process of cleaning in an aqueous medium.

Water-Break—Failure of water to maintain a continuous film on metallic, vitreous or similar surfaces on withdrawing from clean water.

Wet Cleaning (Dry-Cleaning Industry)—Cleaning processes with aqueous media, employed in the dry cleaning industry.

Wetting Agent—A composition which when added to a liquid medium increases the spreading of the medium on a surface or the penetration of the medium into a material.

Whiteness-Retention — Comparative whiteness of original and cleaned fabric.

Reporting for the sub-committee on metal cleaners, J. C. Harris of Monsanto Chemical Co. reported that the bibliography on aluminum cleaners, the first part of which was presented a year ago, has been extended into 1944, and will shortly be published. An article on "Corrosion Testing of Water Soluble Aluminum Cleaners" is being revised in the light of suggestions made at the D-12 meeting, and will be published shortly.

C. C. Zeigler of Swift & Co., presented the report of the nominating committee which recommended continuance of the present slate of officers, all of whom were unanimously re-elected. Harry P. Trevithick, of the Produce Exchange, New York, will continue as chairman for another two year term, with F. W. Smither of the National Bureau of Standards as vice-chairman, and B. S. Van Zile of Hercules Powder Co. as secretary. The following members, in addition to the above officers, continue to function on the advisory committee.

Fred'k Krassner, chief chemist of the U. S. Navy Clothing Depot, Brooklyn; W. G. Morse, purchasing agent, Harvard University, Cambridge, Mass.; M. L. Sheely, general superintendent, Armour Soap Works, Chicago; W. H. Koch, chief chemist, Mathieson Alkali Works, Inc., Niagara Falls, N. Y.; J. B. Crowe, Procter & Gamble Co., Cincinnati; C. C. Zeigler, Swift and Co., Chicago.

To Market Skin Cleaner

De Foe Laboratories, Inc., has recently been established at 3219 Armitage Ave., Chicago, for the manufacture and distribution of "Industrial Skin Glace," a preparation for control of industrial dermatitis. President of the concern is Edward G. De Foe, who also heads a large Chicago concern for custom handling of industrial finishing jobs. Confronted with a severe spread of dermatitis among employees who were doing a phenolic coating job, Mr. De Foe personally took a hand and located the new product which was then being privately

manufactured in limited quantities. Results from the use of the Skin Glace and independent laboratory tests were so impressive that he acquired the patents and launched the new enterprise, he stated.

Alkaline Steel Cleaner

An alkaline steel cleaner developed by the Enthone Company of New Haven, Conn., is known as "Cleaner 100." It is used in a concentration and is said to be an effective immersion cleaner. Advantages claimed for the product include excellent rinsability, long life due to buffering and selection of surface-active materials. The composition contains no soap but has complex phosphates present to solubilize any fatty-acid soap that may form from greases and oils. It is described as effective in hard as well as soft water, and does not form precipitates in acid solution.

Monasanto Acquires Laucks

Monsanto Chemical Co., St. Louis has acquired I. F. Laucks, Inc., Seattle, manufacturing chemists and leading producer of plywood glues, by an exchange of stock, it was announced Mar. 13. Through the transaction, Monsanto acquires the two Laucks plants in Seattle and other company interests at Vancouver, B. C., Los Angeles, Portsmouth, Va., Lockport, N. Y., Stanbridge, Que., and interests which Laucks holds in companies in Australia and Sweden.

TRADE MARKS GRANTED (From Page 57)

406,168. Soaps. Filed by Maria Danica Laboratories Corp., New York, Sept. 28, 1943. Serial No. 463,727. Published Jan. 4, 1944. Class 4.

406,175. Compositions for dehumidifying air and other gases. Filed by Dicalite Co., Los Angeles, Oct. 13, 1943. Serial No. 464,105. Published Jan. 4, 1944. Class 6.

406,193. Liquid weed killer. Filed by Reade Manufacturing Co., Jersey City, N. J., Oct. 21, 1943. Serial No. 464,318. Published Dec. 28, 1943. Class 6.

406,198. Medicated nest egg for killing vermin and for use as a disinfectant. Filed by Booth Chemical Laboratories, Gallatin, Tex., Oct. 23, 1943. Serial No. 464,365. Published Jan. 4, 1944. Class 6.

406,208. Ant poison. Filed by City Chemical Co., Auburn, Ala., Oct. 30, 1943. Serial No. 464,541. Published Jan. 4, 1944. Class 6.

406,217. Germicides, insecticides, vegicides, fungicides and disinfectants. Filed by Geigy Co., New York, Nov. 4, 1943. Serial No. 464,694. Published Jan. 4, 1944. Class 6.

406,218. Toilet soap. Filed by Pinaud, Inc., New York, Nov. 4, 1943. Serial No. 464,715. Published Jan. 4, 1944. Class 4.

406,219. Metal Cleanser. Filed by Pemco Corp., Baltimore, Nov. 5, 1943. Serial No. 464,759. Published Jan. 4, 1944. Class 4.

406,257. Pastelike preparation for shaving. Filed by Barbasol Co., Indianapolis, Apr. 22, 1943. Serial No. 460,083. Published Jan. 11, 1944. Class 4.

406,263. Mosquito and chigger repellent. Filed by B. & B. Toiletries, Chicago, July 21, 1943. Serial No. 426,196. Published Jan. 4, 1944. Class 6.

406,267. Cleaner for metals, machinery and the hands. Filed by Vladimir M. Petcoff, Detroit, Aug. 12, 1943. Serial No. 462,688. Published Jan. 11, 1944. Class 4.

406,271. Dry cleaner. Filed by Penn-Chemap Oil Corp., Butler, Pa., Aug. 20, 1943. Serial No. 462,886. Published Jan. 11, 1944. Class 4.

406,272. Cleaner for copper, bronze and brass. Filed by A. Gusmer, Inc., Hoboken, N. J., Sept. 10, 1943. Serial No. 463,318. Published Jan. 11, 1944. Class 4.

406,277. Dishwashing compound. Filed by Acme Chemical Co., Milwaukee, Oct. 4, 1943. Serial No. 463,856. Published Jan. 11, 1944. Class 4.

406,279. Spray deodorant and disinfectant. Filed by Acme Chemical Co., Milwaukee, Oct. 4, 1943. Serial No. 463,859. Published Jan. 11, 1944. Class 6.

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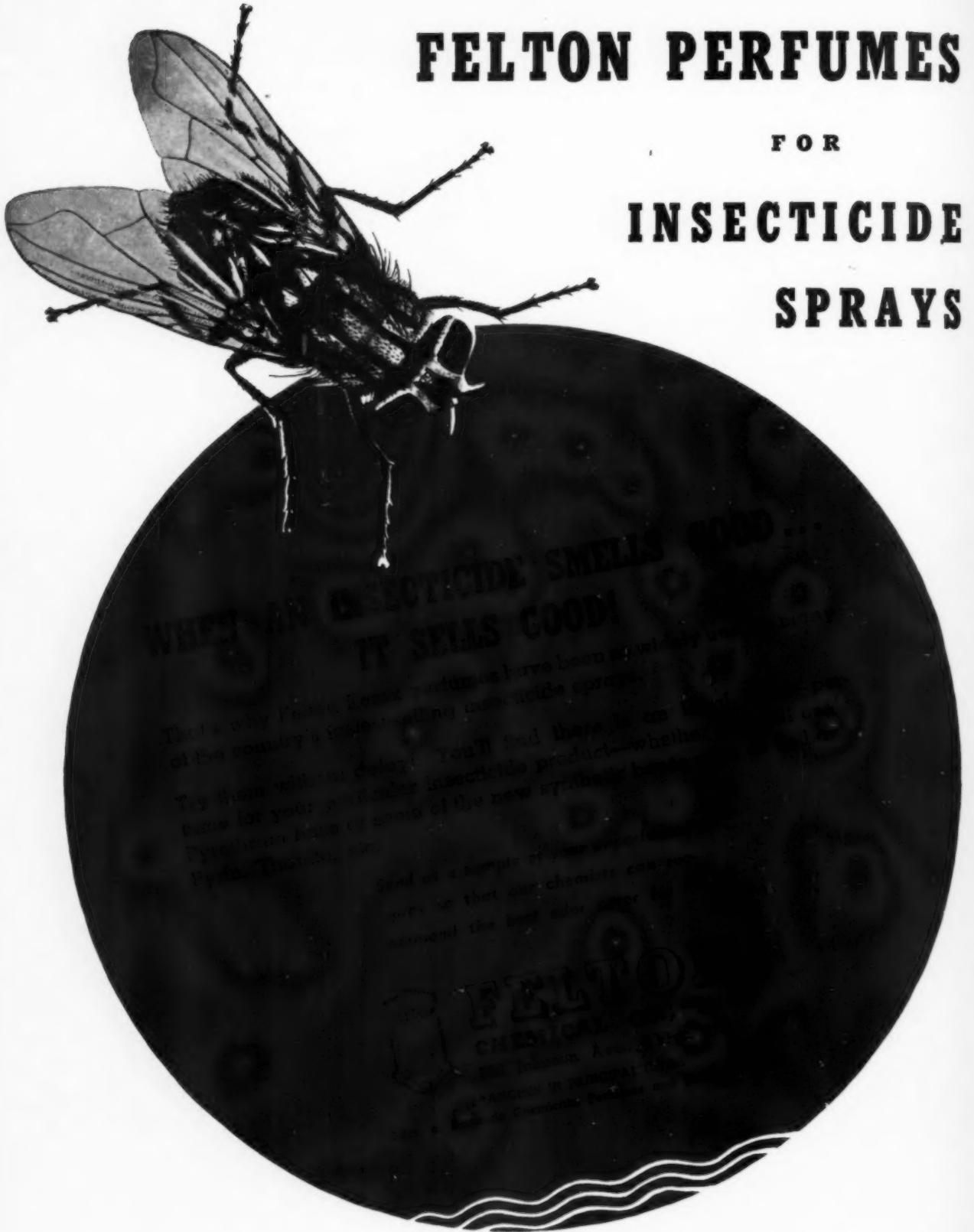
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INSIDE NEWS

APRIL

PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y.

1944

POST-WAR PAINT PROSPECTS

Full-capacity Markets, New Techniques, Point To Favorable Forecast; Competition of "Paintless Materials" Not Expected To Be Decisive

Paint manufacturers are enjoying a partial revival of the civilian market, as emphasis shifts to essential civilian maintenance this Spring.

Pigment section of the industry finds itself in a rather more favorable position than before, since the recent relaxation of the linseed oil priority permits a 10% increase, and probably 16% to 20% more paint. However, since flaxseed exports from Argentina are cut off for several months, buyers must look for further shipments from Canada.

The present situation inevitably stimulates discussion of long-term post-war prospects in paint.

Best opinion is, paint manufacturers should be working to absolute capacity for at least two or three years after cessation of hostilities. Four factors support an inflationary forecast:

The railroads' widespread maintenance and repair plans, including scrapping of a large part of present rolling stock . . .

An expected building boom, almost certain if government, both federal and state, and private planners, have their way . . .

The need to re-paint 50 million deadweight tons of merchant shipping, to carry a good part of the world's trade . . .

Considerable demand for consumer's goods requiring paint finishes, both for domestic and exports markets.

Will new developments substantially affect paint's post-war markets?

Much has been said about the possibility of new materials eliminating the need for paint finishes, but the upshot of the matter is . . . not much. Colored plastics will, it is true, eliminate paint to some extent, but, as one automobile designer has pointed out, polished plastic panels may be easily dulled, and probably hard to match in case of repair or replacements. Pigmented steels are still far from being a commercial reality.

In addition, paint men are bearing in mind that light metals generally require some kind of paint protection; and that the plywoods . . . which are going to be coming into their own in a big way . . . will almost always be coated with some clear synthetic.

The paint industry will continue post-war to be affected, adversely, by a number of material shortages . . . and, favorably, by certain new techniques developed during the war.

The shortage of linseed oil may continue and China wood oil is certain to be scarce, owing to the war-devastation of tung oil trees by the Japs. Chief sources of material for high-quality paint products are likely to be polymerized linseed oil, dehydrated castor

oil and Brazilian oiticica oil in moderate amounts.

New techniques will improve both manufacturing and application of paint products. Electronic baking, for instance, has already cut baking time to way below the time required pre-war.

In applying paint to ships, or other broad metal structures, "brushes" of oxyacetylene flame will greatly speed and improve the operation, forcing moisture out of the metal's surface, providing better surface, better finish.

A wider market for luminous paints can be expected. Stimulus of war on production has lowered cost of luminous paint from \$8 to \$30 per pound down to \$1 to \$2.50 per pound. Safety applications may extend into the home, reducing household as well as industrial accidents. Other uses: illumination in case of power failure, warnings and directional signs, advertising, and printing of special reading and correction sheets in certain occupations.

Most revolutionary development, however, will come from a still experimental and entirely new method of finishing both wood and metal, by using a low-melting synthetic resinoid without a solvent, sprayed on to the work by an electrically heated atomizer or sprayer. Tested with a sprayer which keeps uniform temperature of over 200° F., and uniformly applied, this material was hard and dry in less than 15 minutes. The high temperature permits elimination of the solvent. Further details are still confidential.

605

Borax

Borax is being recommended in Britain as an insecticide material for the control of cockroaches and other pests. A borax and pyrethrum mixture has heretofore been used regularly, but in view of the scarcity of pyrethrum, use of the borax alone is now advocated. Official investigations have found that borax should effect a 95% kill of household pests in nine days.

British workers have discovered that a washing compound containing borax and dry soap possesses considerable fungicidal properties, but is so mild in action as to reduce any tendency to dermatitis. In addition to the benefits imparted by the soap, the borax contributes detergent and water-softening properties.

606

Wine Ageing

Artificial ageing of wine can be induced rapidly by treatment with ultraviolet rays, according to the findings of French investigators. A clear wine with a fine bouquet is produced by this speed-up method.

607

Bush Pumpkins

Canners will have available to them, probably in 1945, a new type of pumpkin which grows on a bush instead of a vine. Just released to seed growers for propagation, the new Cheyenne resembles the small sugar pumpkin, and weighs three to four pounds. It grows on short, upstanding, vigorous plants which do not need staking. The plants need be only four to five feet apart, and the yield is six tons to the acre, as compared with four tons for the New England Pie that must be planted eight feet apart. The Cheyenne ripens very early to a clear yellow color. It is recommended for production in northern regions where earliness is an important factor; has an advantage in irrigated areas, as the bush does not interfere with irrigation as does the vining type and because of the absence of trailing vines, the crop can be cultivated all through the growing season.

608

Irish Moss in Canned Meat

Irish moss can be substituted for agar as a jelling agent in canned precooked chicken. Gelose, obtained from the moss by extraction in hot water, is undesirable in color and taste, but treatment with activated charcoal and filtration through diatomaceous earth remove all odor and taste and most of the color. Gel strength is somewhat less with Irish moss than with agar, for the same amount of jelling agent added, but the presence of small amounts of potassium salts brings up the strength of the moss jellies to that of the equivalent agar jellies.

609

Dairies and Penicillin

The dairy industry can expand substantially in helping to produce enough penicillin to take care of all needs. The mould penicillium notatum grows in a culture of lactose or milk sugar. Demand is increasing sharply but penicillin production now is only a fraction of what it will be. In 1942 approximately 7.5 million pounds of lactose were used in the United States for all uses, none for penicillin. In 1944 it is estimated five million pounds will be required for penicillin alone with a future estimate of 12.5 to 14 million pounds. New processing plants will raise total production to about 10.5 million pounds of lactose, probably not enough by two million pounds. This may be taken up by lactose made from cheese whey, a fairly simple process for cheese factories who do not now have an outlet for their whey.

610

Cannery Waste Pectin

Crude citrus pectin which can be used by preservers in the manufacture of jams, jellies and marmalades is possible from citrus cannery waste, according to a new process developed in the South. The crude pectin is produced by leaching grapefruit peel with water and then drying and grind-

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ing the peel. A second method has been developed for extracting pectin from the ground product by process of hydrolysis. Grapefruit cannery waste contains from 2½ to 4% of pectin. During the past season, Florida canneries processed more than 17½ million boxes of grapefruit, yielding 322,000 tons of peel and pulp, less than 60% of which waste was used commercially, the remainder being dumped. This is the source of raw material for making either crude or pure pectin.

The manufacture of pure powdered pectin requires elaborate and specialized equipment, but the refined pomace, which may be used by jam and jelly makers as a source of pectin, may be made in equipment most of which is already available. 611

Cocoa Butter Substitute

By special processing, a substitute for cocoa butter has been produced from cottonseed oil. The physical differences between this fat and cocoa butter are minor—it has a slightly longer plastic range, super-cools less strongly, and contracts slightly less upon solidification. The chemical composition is somewhat different, because of the presence of iso-oleic acids. Yields are low, but the residue is suitable for use as a hardening agent in shortening and similar products. 612

Petroleum Jelly

Petroleum jelly has been found effective in combating the swelling and gangrene caused by prolonged exposure to salt water often suffered by torpedoing victims. Canadian medical research has found an impregnated stocking an easy method of application of the treatment. 613

Melamine Improved

Melamine manufacture from cyanamide or dicyanamide by an improved method is claimed in a recent British patent. In the process described, a solution of cyanamide or dicyanamide is heated in an autoclave in a solvent comprising liquid ammonia, with or without the addition of anhydrous methanol or other diluents to reduce the autoclave pressure, while agitating the charge. 614

Anthracene Purified

Anthracene paste purification by heating the mass, allowing it to cool carefully, and then pressing to remove the content of entrained oil is described in a recent British patent. The process can be applied to pastes from which the oil could not be removed by direct pressing, and in the modified method hydrocarbon impurities accompany the expressed oil in such portion as to produce pastes exceeding 40 percent in anthracene content. 615

PALE RESINS—Citric acid can be reacted with terpenes or terpene alcohols in the presence of an unsaturated fat or fatty acid to produce pale resins according to a recent British patent. The resultant resins, in addition to being very pale, are declared to be easily soluble, be more water resistant than the usual alkyls, and when incorporated into a varnish to dry rapidly and harden thoroughly even when applied in thick films. A varnish of suitable viscosity can be obtained, the patent claims, by simply adding a lacquer benzene to the resin. 616

SODIUM LACTATE—Sodium lactate in an isotonic solution has been found effective when given orally in combatting the shock phase in severe, extensive third degree burns. Heretofore the material has been commonly administered intravenously in plasma. The solution was chilled prior to treatment. 617

CARBON SULPHIDE—Production from carbonaceous materials can be increased by more than 30% through use of certain sodium and potassium salts as catalysts. It was recently reported by several Russian workers. Sodium carbonate, sodium sulphate, and sodium hydroxide were found among the most effective. 618

FINISHING PAINT—A paint which dries to a pebble surface and hides minor finishing defects is now being offered by an American manufacturer. The material is stated to eliminate the need of filling, sanding and sealing paints on machine housings and castings, and thus speed production appreciably. Application is by means of a spray gun. A range of colors is available. 619

CORN GERM PROTEIN—“Defatted” corn germ has as high a biological value as meat. Experiments at a Western university show defatted corn germ contains 21% protein, 85% as digestible as beef protein. 620

GRANULAR SILICA GEL—Recently developed, the gel is eliminating time-consuming degreasing operations in package machinery. By sucking up half its weight in moisture, damp air is eliminated from cargo space. 621

SYNTHETIC CEMENT—A synthetic cement, superior to putty, for glass instrument windows has been developed by a leading American manufacturer. 622

SCENT ALLERGIES—Allergic effects, such as hay fever, have been reported from the scent or odoriferous particles of some trees and plants. These effects are totally unrelated to hypersensitivity from pollen and may explain the failure of pollen extract therapy in some cases. 623

MULTIPORE—The development of a filter material containing as many as 6400 perforations to the square inch is now being used by chemical plants, food factories, medical manufacturers, coal and iron mines, steel mills, liquor distillers and many other types of industry. It is also filtering fruit juices for shipment to combat areas; serving in purification of insulin and aiding production of magnesium metal. 624

COD INSULIN—Insulin from codfish is a new find reported from a foreign fisheries' research station. 625

CINCHONA REPLACEMENTS—Over 100,000 cinchona plants, the bark of which provides quinine, have been raised in American greenhouses and shipped to Ecuador, El Salvador, Nicaragua and Peru for planting and cultivation. 626

CORK SUBSTITUTE—Peanut shells are the new substitute for cork. After four years of research, a Southern experiment station has worked out a commercial process for shells heretofore used as fuel. 627

CAUASSU WAX—A new Brazilian industry, cauassu wax, equal to and much easier to harvest than carnauba wax, is expected to expand rapidly after the war. The wax is obtained from the underside of the cauassu leaf, which is also used to wrap fresh meat and to make containers for flour and sugar. 628

DERRIS CUTTINGS—One-hundred-thousand cuttings of derris have been planted in Haiti, in cooperation with the United States for future rotenone insecticides. Several South American countries are receiving cuttings by aeroplane. 629

BANANA ALCOHOL—A new industry projected in the British West Indies is using bananas to produce ethyl alcohol. 630

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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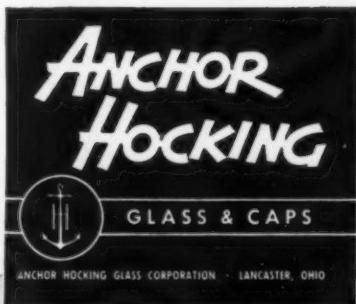
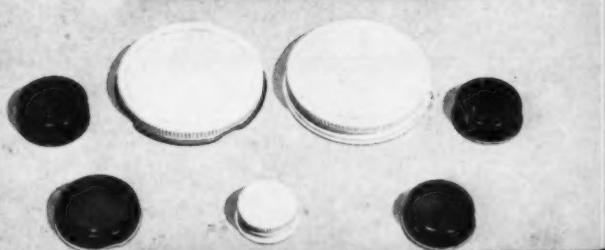
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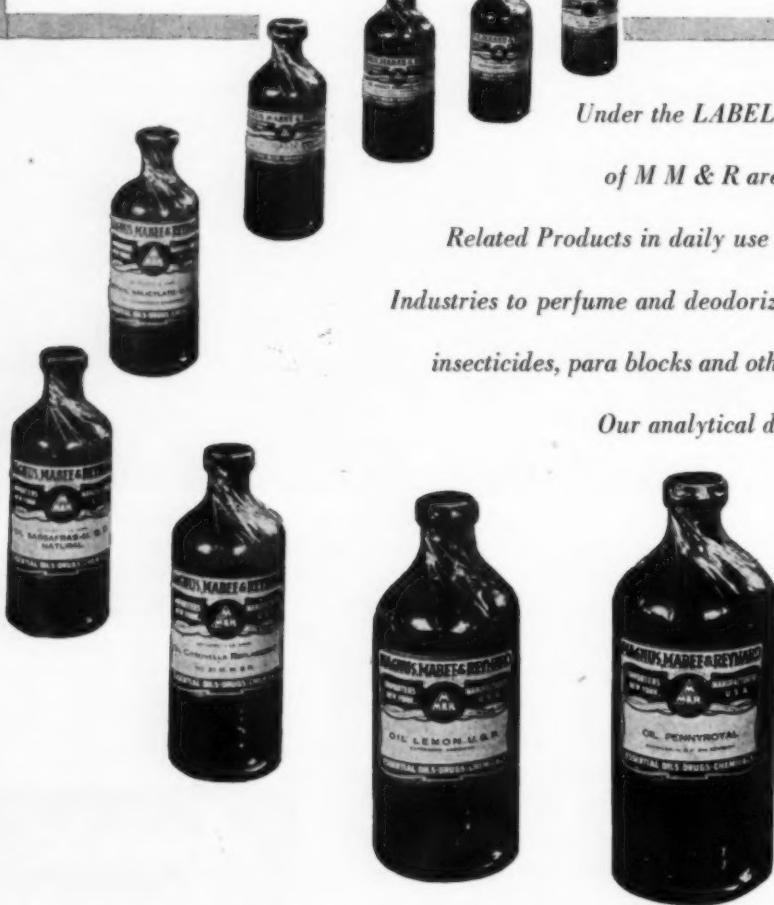
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Industries to perfume and deodorize soaps of all kinds, sprays,

insecticides, para blocks and other specialty items.

Our analytical department is at your service.



M M & R repeats an oft-mentioned slogan—"If your problem is how little instead of how much you can spend for perfuming or deodorizing, M M & R can be of service to you."



MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS, AROMATIC CHEMICALS, BASIC PERFEUMES, FLAVORING MATERIALS. SINCE 1895.

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WEST COAST REPRESENTATIVES—San Francisco: BRAUN, KNECHT, HEIMANN CO.
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PRENTISS

FORTIFIED RED SQUILL POWDER

"Consistently High in Killing Power"

- FORTIFIED
- ACTIVATED
- STANDARDIZED

(Specific poison to rats—relatively non-poisonous
to human beings, domestic animals and pets)

YOU can rely upon PRENTISS FORTIFIED RED SQUILL
POWDER which has been standardized to show a Minimum
Lethal Dosage of 500/600 mg/Kg.

Write us for detailed information and prices.



R. J. PRENTISS & CO.

80 JOHN STREET, NEW YORK 7, N. Y.

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Two to go!

Speaking of annihilation — the odors created by our adept perfume-chemists for your insecticides, slay the killing agent, pronto and quietly depart the battle scene. No trace remains—perfumed or otherwise.

*Send us a gallon of
your unperfumed spray
We want to show you
what we consider a per-
fect perfuming job*



VAN AMERINGEN-HAEBLER INC. • 315 FOURTH AVENUE • NEW YORK 10, N. Y.

VELSICOLS AR-50 AND AR-60

Give Your Sprays

★ ★ ★ 3-STAR PERFORMANCE

★ **AA KILL**—Vital statistics from Peet-Grady Tests indicate the superior killing power of Velsicol sprays. The Velsicols are uniformly potent, producing AA sprays in concentrations as low as 35% by volume, in base oil. They are stable in all types of containers and for extended periods of time.

★ **STRONGER REPELLENCE**—By actual fly count on University experimental farm cattle, Velsicol blends proved more efficient as repellents than competing sprays. VELSICOL AR-60 in your livestock spray assures vigorous, long-lasting repellency.

★ **GREATER PROFITS**—Manufacturers have consistently established new sales records with Velsicol-based sprays. Volume sales as well as lower unit costs for finished sprays spell larger profits.

Improve your product—increase your sales with the VELSICOLS, AR-50 for household sprays and AR-60 for livestock sprays. Write today for full information. You'll receive prompt, individual attention.

**AR-50 AND AR-60
SOLVENTS
FOR DDT!**

VELSICOL
Corporation

GENERAL OFFICES: 120 EAST PEARSON STREET, CHICAGO



PLANT: MARSHALL, ILLINOIS

VELSICOLS AR-50 and AR-60 are excellent solvents, even at 0° C., for DDT, the important newly-introduced toxicant. Hence, they are the logical materials for the manufacture of DDT concentrates. Although DDT is now restricted as to use, laboratory and field tests show that VELSICOL-DDT combinations hold great promise for insecticide manufacturers in the post-war period. Their combined operations tend to give total control over many critical insect problems where the specificity of DDT alone would limit its usefulness.

... Official Test Insecticide (O.T.I.)

SUPPLIES of the 1943 Official Test Insecticide for evaluating fly sprays by the Official Peet-Grady Method are available only from the office of this Association. The O.T.I. is priced at \$5.00 per dozen six-ounce bottles, plus shipping costs, to members of this Association. To others, there is an additional service charge of \$1.00 per dozen. Single bottles are \$1.00 each. Check with order is required.

The 1943 Official Test Insecticide is required for all official testing of fly sprays by the Peet-Grady Method for the period from June 1, 1943 through May 31, 1944.



National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street

New York

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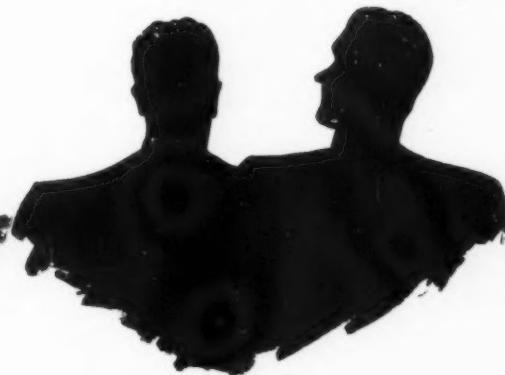
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Let's take a look at...

PYRETHRUM

1944—and After



THERE is no faint possibility that the present year will see the household insecticide industry re-introduced to pyrethrum. Available supplies are urgently needed for mosquito control in combat areas, and one need not have access to the files of the General Staff to predict increasing military activity in some of the worst malarial regions of the world.

It is even more certain, however, that the plantings now being encouraged

to meet military requirements will go on flowering profusely after the guns are silent. The long-range view promises adequate and even ample supplies at reasonable costs. Fortunately, substitutes have been available to carry through what might easily have been a disastrous period for the industry and its customers, but none yet has challenged pyrethrum's two great advantages—toxicity to a wide variety of insects, and safety to men and animals.



DODGE & OLcott COMPANY

180 VARICK STREET, NEW YORK 14, N. Y.

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YOUR 85 BILLION DOLLAR Mass Feeding Mass Housing MARKET

A BIG Market of BIG Consumers

THE readers of INSTITUTIONS Magazine represent a post-war market of huge proportions . . . an 8.5 billion dollar post-war market that is yours today! The readers of INSTITUTIONS Magazine are the big consumer buyers of all types of mass housing and mass feeding products . . . the buyers by whom this 8.5 billion dollars will be spent. The readers of INSTITUTIONS Magazine will expend a large percentage of this figure for maintenance supplies of all kinds.



To determine the size and extent of the post-war market in the institutional field, INSTITUTIONS Magazine conducted a survey among over 50,000 hotels, hospitals, schools, colleges, restaurants and other types of institutions. The findings of this survey—which have been presented in this booklet—are of special interest to all manufacturers now serving or planning to serve this field. To obtain details on this survey, or for information on the application of your products to the mass feeding and mass housing market, consult your advertising agency or write direct.

Each month INSTITUTIONS Magazine reaches:

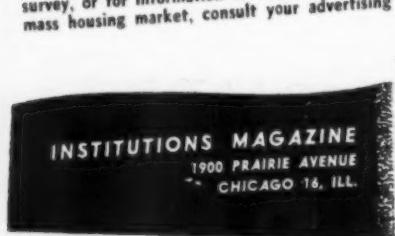
- HOTELS
- HOSPITALS
- SCHOOLS
- RESTAURANTS
- INDUSTRIAL CAFETERIAS
- COLLEGES
- PUBLIC INSTITUTIONS
- YMCA's and YWCA's
- RAILWAY SYSTEMS
- STEAMSHIP LINES
- PUBLIC BUILDINGS
- OTHER INSTITUTIONS

and, for the duration of the war—in addition to its regular circulation, INSTITUTIONS Magazine is being sent to buyers and specifiers of mass housing and mass feeding products for those directly engaged in the war effort.

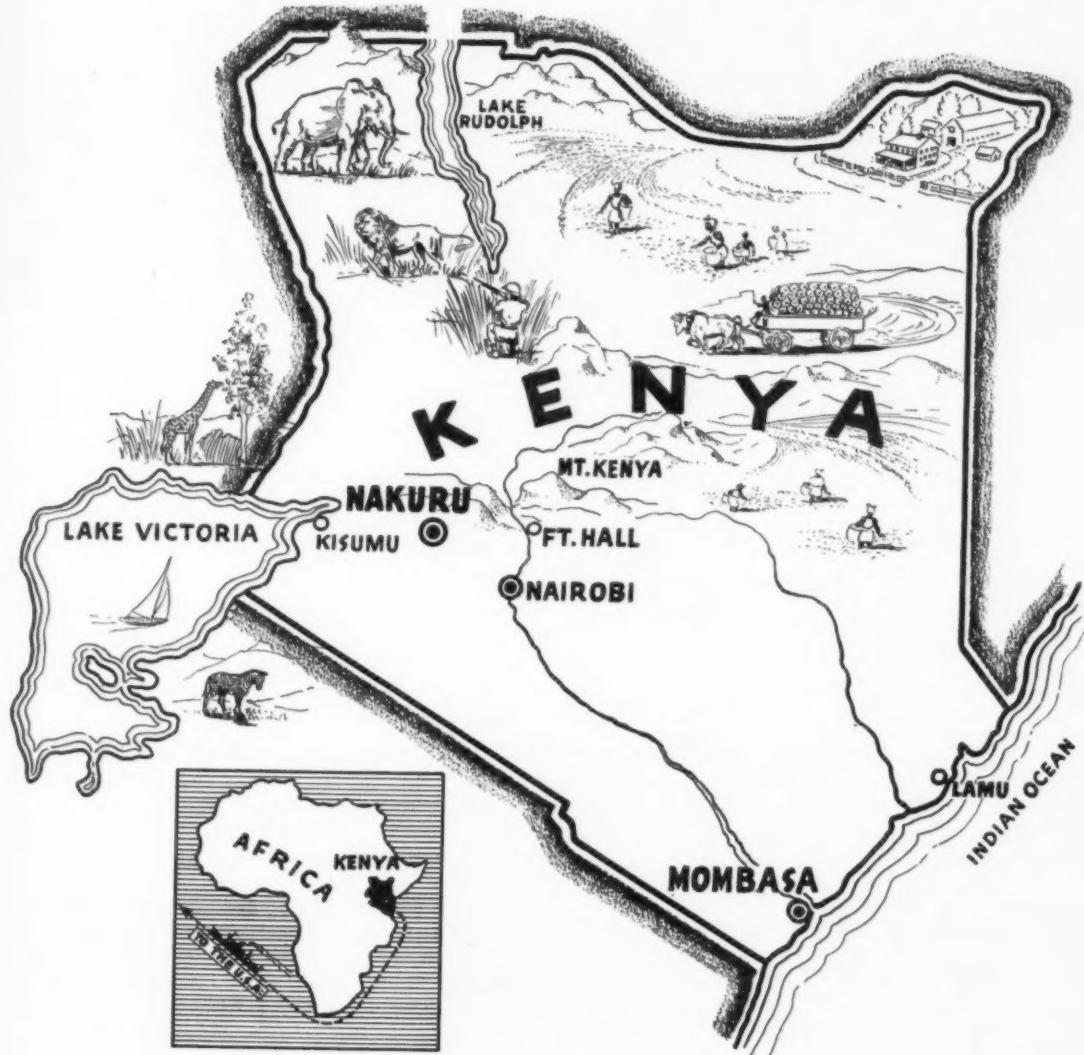
These are the men and women who depend upon INSTITUTIONS Magazine for authoritative assistance on their immediate and post-war problems . . . for the type of product information they must have in directing their planning and buying on a practical and sound basis.

Manufacturers of soaps, disinfectants, insecticides, floor treatment materials, cleaning compounds and other similar products who are now advertising to this huge market through INSTITUTIONS Magazine are using the most effective and most economical means of approaching these big consumer buyers. These manufacturers are not only enjoying the immediate benefits of this market . . . they are also building for themselves a preferred position among institutional management in the post-war period.

INSTITUTIONS Magazine is the only publication through which you can reach all related divisions of the institutional field. If your present or contemplated products have an application to this field, your advertising messages in the columns of INSTITUTIONS Magazine will gain for them the kind of acceptance they must have to share in the 8.5 billion dollar institutional market.



WHERE THE WORLD'S FINEST PYRETHRUM GROWS



HOME OF

KEN YAPYE
REG. U. S.
PAT.
OFFICE



Plan to take advantage of the extra strength of

KENYA PYRETHRUM

in your post-war insecticides

*The Great Natural, **SAFE** Vegetable Insecticide*

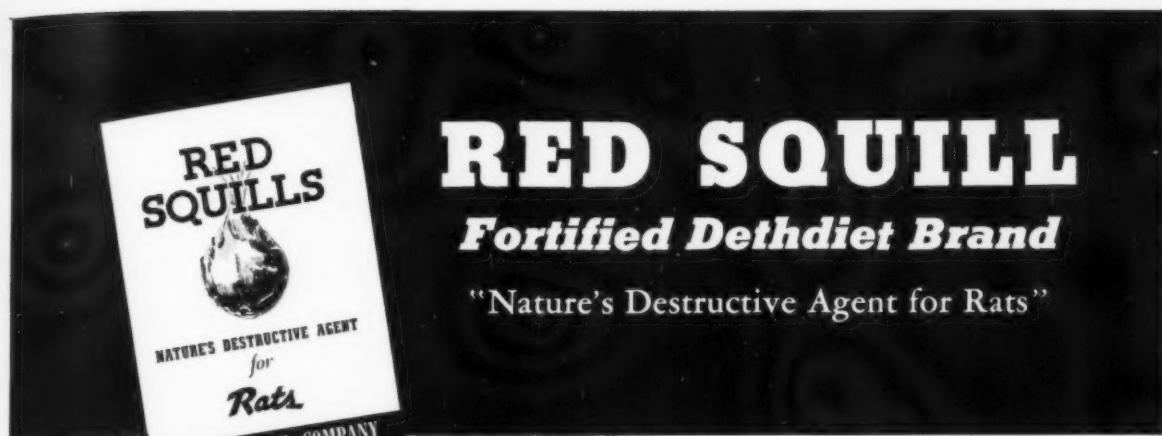
Out Soon . . .

The New 1944 BLUE BOOK

A copy of the BLUE BOOK will shortly be mailed to every subscriber to *Soap and Sanitary Chemicals*. A limited number of additional copies is available without extra cost to those entering a one year's subscription to *Soap and Sanitary Chemicals* now. Don't delay!

Published by

MACNAIR-DORLAND CO.
254 West 31st Street New York 1, N. Y.



Write for free booklet—RED SQUILLS

IT has long been recognized that the problem of reducing the rat population of the country would be accomplished more efficiently by the use of Red Squill, potent enough to kill most of these disease-carrying, property-destroying rodents.

Supplies of Red Squill have been scarce during the war period, but now replenishing stocks are arriving from liberated areas. This material, however, is of low toxicity, and government agencies concerned with the rat control problem will not permit its distribution as received . . . The Fish

and Wildlife Service of the Department of the Interior, which has interested itself in this commodity for many years, has established a standard of 500-600 mg/kg.

From material allocated to us, we now manufacture, by a newly developed concentration and fortifying process, Red Squill of the required potency. It is approximately *four times more toxic to rats than the Red Squill generally distributed in recent years*. Here is an opportunity to add an effective product to your line.

BETTER RED SQUILL MEANS BETTER RAT CONTROL

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THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

Buy War Bonds and Stamps . . . For Victory

Insects are true Saboteurs!



THEIR main objective is our food supply, — in field, in process, in storage. That they reach it and take it is proved by the fact that each year they destroy an estimated \$1,423,948,000 worth of food. Rats do plenty of damage, too. Their annual score is \$189,000,000. Total damage due to insects and rodents runs to over \$2,000,000,000 worth of food, — food we can ill afford to lose. This means between 6 to 7% of our food supply — or almost as much as we lend-leased to all our allies last year.

In peace time these figures would be bad enough, but in war time they can't go on. They must be cut!

Here are some more! In California the loss of tomatoes due to the depredation of the tomato fruitworm amounted to $\frac{1}{2}$ ton of canned tomatoes an acre, enough to feed 125 persons for one year. The pea weevil in Washington, Oregon, and Idaho destroys enough peas in one year in an acre to feed 18 persons.

Insect control is a vital wartime necessity. Manufacturers of insecticides have a job to do. Their's is the task of seeing that the food processor receives an honest dollar's worth of the right insecticide when they need it. The decreased availability of pyrethrum and rotenone in insecticides means that insecticides must be applied where and when it will do the most good.

Manufacturers should be well informed so that they can relay their knowledge through advertising and promotion to their clientele. THE CANNER can do this job for you. Why not write us today?

the
CANNER
an indispensable journal for all food packers

140 N. Dearborn Street

Chicago 2, Illinois

100

Say you saw it in SOAP!

April, 1944

The can that paints a glowing SOS
may bring you
paint that glows in the dark!



• American fliers, forced down at sea, are being sighted and rescued more often today... thanks to a tin can of magic powder.

It paints a huge splotch of glowing color on the water. This guides searching pilots, helps them see life rafts better.

Someday cans will carry a product to help you see better... paint that glows in the dark! You'll coat stairs and banisters with it to guide you at night.

New and better paints are coming after the war. Some paint experts envision a one-coat house paint, even a sound-absorbing paint.

SAVE TIN CANS—HELP CAN THE AXIS

And they're coming in cans, of course—along with all the fine paints you've always known. War is really proving the ruggedness, convenience and safety of cans.

To do our war job, we've developed new ideas and new skills, too. That's why as we look ahead, we see *new and better things in Continental cans*.

POST-WAR PLANNING: We'll be glad to discuss future uses or improvements of your product or package and help in your post-war planning. Write Post-War Planning Dept., 100 E. 42nd Street, N. Y. C. or Continental Can Company of Canada, Limited, Montreal.

CONTINENTAL CAN COMPANY
NEW AND BETTER THINGS IN CONTINENTAL CANS

Awarded to Plant 78,
Chicago • Illinois



Say you saw it in SOAP!

Plan Now To Attend

22nd annual convention **NATIONAL SANITARY SUPPLY ASSOCIATION**

Hotel Morrison, Chicago

April 24-26



EVERY dealer of sanitary supplies should pledge himself to serve the Nation to the best advantage possible. It is only through proper cooperation with manufacturer, dealer and consumer that this can be done.

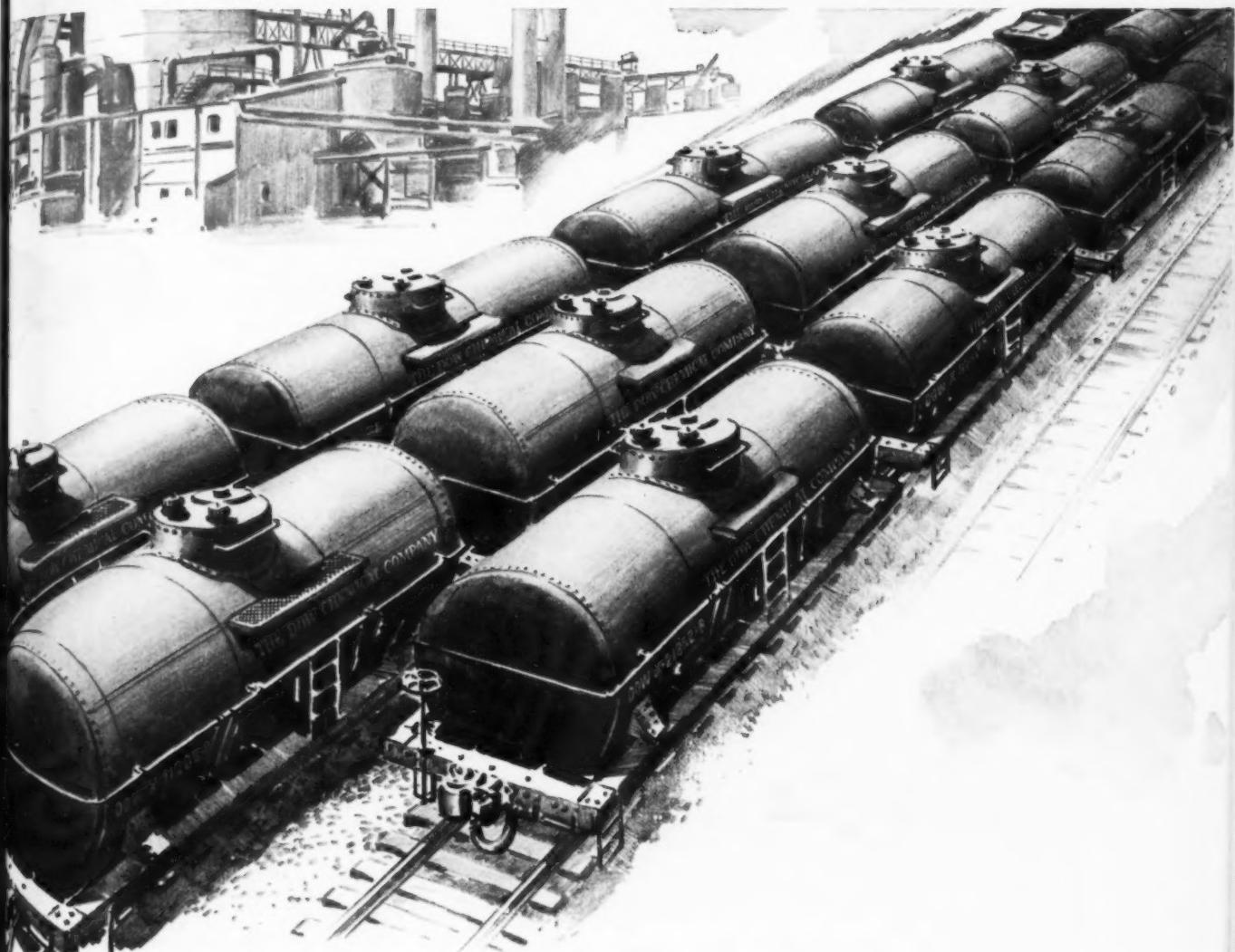
Speakers at the convention will largely be drawn from Washington war agencies, in an effort to clarify understanding of the latest regulations covering materials, prices, labor, transportation and other vital subjects. As speaker of the evening for the annual dinner we have been fortunate to secure the well-known Dr. Preston Bradley.

In addition to the valuable program that is being planned, leading manufacturers will display their latest developments of interest to the jobbing trade.

This is a meeting that I don't think you can afford to miss. As President of your Association, I invite you to be present. Information regarding reservations may be obtained from the secretary's office, 407 E. Michigan St., Milwaukee 1, Wis.

M. L. Magee,
President

DOW PHENOL



An Industrial Chemical of Major Importance

Phenol is truly a key chemical of industry. It finds indispensable applications in the manufacture of such highly essential products as plastics, resins, lubricating oils, pharmaceuticals, dye intermediates, aromatics.

Ever since the early 1900's Dow has been a leading supplier of Phenol. Today, newly enlarged production facilities place Dow far in the foreground of the

world's Phenol manufacturers . . . traditional Dow quality and dependability have boosted Dow Phenol sales to an all-time high. Thus Dow is now recognized as the largest producer of Phenol, as well as a major supplier of other important industrial chemicals. Requests for complete information on Dow chemicals will receive prompt attention.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis
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DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY

SANITARY PRODUCTS

their manufacture, testing and use

By Leonard B. Schwarcz

CONTENTS

Sanitary Products Industry — reviewing the type firms in the industry, the products they manufacture, and their annual value.

Discovery of Bacteria—historical background on the germ theory of infection.

Principles of Disinfection — the role of chemical preparations in disinfection; definition of disinfectant terms.

Coal Tar Disinfectants—a review of their manufacture and use.

Cresol Compounds — Liquor Cresolis Compositus, B.A.I. Compound, petroleum-type cresylics.

Pine Oil Disinfectants—manufacture, properties and uses.

Hypochlorites—manufacture, properties and uses of chlorine disinfectants.

Formaldehyde—its applications in the disinfectant field.

Oil Soaps—manufacture, sale and use of jelly soaps, green soaps, auto soaps, floor scrubbing soaps, etc. Special attention is given to manufacture of oil soaps from fatty acids.

Liquid Soaps—The case for liquid soaps for washroom use. A review of raw materials, manufacturing methods, use, etc., with special attention to the problems of clarity, concentration, dispensing equipment, etc.

Soap Dispensers—a review of the common types of liquid and powder soap dispensers, push-in, push-up, tilt, goose-neck, pullman, etc.

Floor Waxes—A review of raw materials for floor wax manufacture and a study of manufacture and application of liquid waxes, paste waxes, water-emulsion waxes.

The Insect Problem—A review of the general role which insecticides must fill in man's battle against the insect world.

Pyrethrum Insecticides—The important place that pyrethrum has taken in the manufacture of non-poisonous insecticides. Manufacture, testing and use of pyrethrum insecticides are reviewed.

Rotenone Materials — Occurrence and toxicity of rotenone, and its use as an insecticidal raw material. Comparisons with pyrethrum on toxicity and deterioration.

Synthetic Insecticides—The most complete review yet published of the chemical nature, characteristics, and use in insecticides of a dozen synthetic materials.

Activators—The action of activators in stepping up insecticide toxicity. A study of activators which are in current use.

Roach Control — Roach powder formulation. The role of sodium fluoride and borax.

Bedbug Liquids—Control methods and special preparations.

Livestock Sprays—Manufacture and use of cattle sprays, with particular emphasis on repellency, application and choice of oil base.

Sprayers—A review of hand, continuous and electric types. Applicators for aerosols are also discussed.

Moth Preparations — Use of paradichlorbenzene, naphthalene, cedar preparations, etc., in moth control. Cautions on labeling.

Deodorant and Urinal Blocks—Para vs. naphthalene blocks. Pressed vs. molded blocks. Perfuming, wrapping, etc.

Labeling and Packaging—The most complete review ever published of the obligations of the sanitary products manufacturer under the Insecticide Act of 1910, The Caustic Poisons Act, The Federal Trade Act, the Food, Drug and Cosmetic Act and the various state laws. Typical decisions of the AMA and the FDA in reviewing offending labels are presented, along with sample labels of approved content.

Appendix—Complete text of Insecticide Act of 1910, Caustic Poisons Act, Peet-Grady Test for Insecticides, FDA Method for Disinfectant Testing, Mercury Reduction Method, Seil Method, NAIDM Specifications, list of approved antidotes.

ISANITARY PRODUCTS has standard high-grade book binding, cloth and board covers, 6 x 9, 312 pages. Priced at \$5.00 per copy. Check must accompany order. Orders for books to be sent on approval cannot be accepted, but the usual return privilege will be accorded where copies are returned unmarred within 10 days. Owing to present conditions, the first edition must be limited. Accordingly an early order accompanied by check is suggested.

Published by

MACNAIR-DORLAND Co.

254 West 31st Street

New York 1, N. Y.

Short On Supplies?

S.O.S.

SPECIFY ONLY SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

CAUSTIC POTASH Solid and Flake

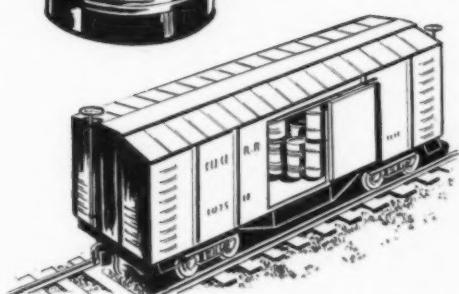


...your dependable source for EXTRA QUALITY!



Manufacturers of Potash Soaps and Potash Chemicals are today faced with shortage of supplies, but there is one dependable source they can rely on for Caustic Potash—SOLVAY!

The highest standards of *purity* give SOLVAY Caustic Potash, solid or flake, EXTRA quality advantages. Specify SOLVAY Caustic Potash—your dependable source of EXTRA quality. Prompt deliveries assured. Convenient size containers.



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The Solvay Process Company

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COLE still gives you the Protection
of LABORATORY CONTROL

Although our three plants are all busily engaged in filling war orders which must take precedence over civilian requirements — we want our customer-friends to know that we are still in a position to satisfy their civilian needs and supply them with COLE Products in limited quantities.

Despite these action-packed days, you can rest assured that COLE Products continue to represent the utmost in quality — because step by step, COLE Products are protected by continuous LABORATORY-CONTROL.

Immediate Delivery

Disinfectants
Insecticides
Soaps — Waxes
— Polishes
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COLE LABORATORIES
23d St. and 37th Ave. • Long Island City, N.Y.



COLUMBIA SPOTLIGHT

DO YOU HAVE NEW PRODUCTS which you believe will interest us? One of the important members of our Purchasing Staff is a chemical engineer who directs the testing of new materials and who sees that new ideas are thoroughly investigated. If you have new products or services of the type we might use, bring them to the attention of our Purchasing Engineer, Barberton, Ohio. Full consideration is assured.



GEOLOGISTS WHO ESTIMATED the depth of the salt bed which serves the DPC Chlorine-Caustic Soda plant operated by Columbia at Natrium, West Virginia, are certainly entitled to take a bow. Although deepest in the world in commercial use (6,720 feet), the well sunk for this operation was within 35 feet of the geologists' estimate—a miss of only $\frac{1}{2}$ of 1%!



THE GLASS INDUSTRY'S NEED for standardized grades of Dense Soda Ash was first recognized and served by Columbia. For best results, the granulation and density of the Soda Ash must bear the proper relationship to other batch ingredients—it is not enough that it merely be granular, dense and dustless. Columbia perfected three standard grades from which the glass maker selects the proper density and grain size for better manufacturing performance and superior glass products.



A STRIKING EXAMPLE of the growth of the chemical industry is found in the production records of Caustic Soda. In 1899—the year of Columbia's organization—total U. S. production of this chemical was 167,000 tons. By 1941—before the impetus of our nation's war needs—the chemical industry itself was consuming 220,000 tons of the total national production of 1,095,000 tons, and Columbia's Caustic Soda output alone exceeded the total 1899 production by a substantial margin!



COLUMBIA CHEMICALS include Soda Ash, Caustic Soda, Sodium Bicarbonate, Liquid Chlorine, Silene EF (Hydrated Calcium Silicate), Calcium Chloride, Soda Briquettes, Modified Sodas, Caustic Ash, Phosflake, Calcene (Precipitated Calcium Carbonate), and Calcium Hypochlorite.

When much depends on one

Even in those first tense moments of locating the enemy, the scout's keen eyes are observing every movement, his trained mind interpreting the action for his headquarters. Much depends on him . . . his report is a key piece in the complicated jigsaw of a large-scale military operation.

Much depends on Columbia chemicals, too, in their vital role in so many manufacturing operations. Uninterrupted, economical production and the characteristics desired in finished products are dependent on chemicals that conform to specifications.

This is why Columbia has established the highest standards for its products. This is why Columbia can assure the supplying of chemicals which meet the precise needs of its customers.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY
COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago • • • Boston • • • St. Louis • • • Pittsburgh • • • New York • • • Cincinnati
Cleveland • • • Minneapolis • • • Philadelphia • • • Charlotte

PLEASE NOTE...

We have moved our general offices to:—

**225 Plymouth Building
E. 22nd and Prospect Ave.
Cleveland 15, Ohio**

Our factory remains at 2450 Canal Road, where we will continue to manufacture a high quality line of:—

**DISINFECTANTS
INSECTICIDES
CLEANING COMPOUNDS
POLISHES
DEODORANTS
ETC.**

Please mail your orders and inquiries to our new address where your needs will receive our prompt attention.

**THE CHEMICAL SUPPLY COMPANY
CLEVELAND, OHIO**

"SINCE 1898"



BUY WAR BONDS

... also remember DREYER for

**'petromask'
FLY SPRAY PERFUMES**

\$2.50 per lb.

GARDENIA "petromask"	No. 1166
JASMIN "petromask"	No. 1167
LILAC "petromask"	No. 1168
MIMOSA "petromask"	No. 1169
NEW MOWN HAY "petromask".	No. 1170
ORANGE FLOWER "petromask".	No. 1171
ROSE "petromask"	No. 1172
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Trial Pound or Samples on Request

P. R. DREYER INC.

119 WEST 19th STREET
NEW YORK 11, N. Y.

KRANICH

WAR shortages are bringing about many changes in our line of soaps for jobbers and converters. Fortunately, our many years of experience in the manufacture of quality soaps enable us to make these changes with the minimum inconvenience to our customers. Every possible effort is being made to maintain the quality of KRANICH soaps. To protect our regular customers we are filling orders on many hard-to-get products on the basis of former purchases. We know you will appreciate the fairness of such a policy. Plan to consult KRANICH regarding your supply problems. — We may be able to help.

Shampoo

Liquid Castile Soap



Powdered Soap

U. S. P. Castile (Only)



Potash Soaps

Soft Potash 40%
U. S. P. XII Green



KRANICH SOAP COMPANY

55 Richards St.

Brooklyn, N. Y.

SOAPS

Save Floors Lumber is Scarce



*Correct Protection and
Proper Maintenance Are
Now More Necessary Than Ever*



FED-CO SEALER

Fed-Co Sealer may be used on wood, cork, linoleum and concrete. It penetrates the material, seals the pores and provides a non-slippery, hard, long wearing sanitary floor.

Fed-Co Sealer is quickly applied with a mop or brush and wiped off. It dries quickly and leaves a sealed floor without a surface film. The finished floor is impervious to hot or cold water, alkali, acid, ink, etc. It may be cleaned easily and quickly. Try Fed-Co. It has many advantageous features.

No. 70 RESTORER

With No. 70 Restorer sealed floors can now be cleaned and given new, lustrous beauty in a single operation. Here is a highly efficient maintenance product that is thorough in its ability to cleanse floors of dirt, dust, grease, rubber burns and other disfigurements. It imparts a fine lustre and enables the operator to save much time over ordinary methods.

It is non-slippery—ideal for office and factory floors on most type of surfaces—linoleum, cement or sealed wood.

FEDERAL VARNISH COMPANY

FLOOR FINISH DIVISION

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CHICAGO ILLINOIS

Another Fine Disinfectant
Baird & McGuire, Inc.

St. Louis, Mo., and New York

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April

SANITARY PRODUCTS

A SECTION OF SOAP

MUCH confusion has existed among insecticide manufacturers regarding their status under W.P.B. Order P-146 covering fibre and other shipping containers. The latest interpretation from Washington of P-146 as far as insecticide manufacturers are concerned—and this includes agricultural, household and home garden insecticides alike—indicates that all insecticide manufacturers automatically are included under a blanket M.R.O. rating of AA-1. As far as containers are concerned, this gives them a rating of AA-2x under the "catchall" classification of P-146. No applications to Washington for an M.R.O. rating are necessary. The insecticide manufacturer in ordering containers merely fills in this automatic AA-2x rating on his form. A detailed explanation recently bulletin by N.A.I.D.M. is published elsewhere in this issue.

COMMENTING recently in an editorial on D.D.T., the *Chicago Tribune* stated: "Apparently the only people who are being kept in the dark by the suppression of information are the citizens of the United States." This comment just about hits the nail on the head. The manner in which the Surgeon General's office continues to suppress publication of technical information about D.D.T. under the guise of the same old chestnut, military secrecy, is more than ludicrous. It is suspicious. And we are not alone in suspecting that the Army medicos may be using military secrecy as a gag to cover up their own shortcomings.

Maybe they just hate to admit that the German Army had D.D.T. for a year or more before they even knew about it and while they were buying some ten or twelve million cans of inferior loose powder for the American Army. To us this continued hush-hush policy smells more of red herring than military secrecy. And when the time comes for the Surgeon General's office to claim full credit for the development of D.D.T.—and it will come if we can judge by the type

of "news" released thus far—then watch the publicity blossom like a rose, military secrecy to the contrary notwithstanding.

ROACHES are causing insecticide manufacturers plenty of trouble these days. Because of the difficulties encountered with the Department of Agriculture in label claims regarding the effectiveness of certain insect sprays against roaches, some manufacturers have already removed the words, "roaches and water bugs," from their labels. The law enforcement officials contend that liquid insecticides carrying the customary three to five per cent concentration of some synthetic ingredients will not kill roaches, and are acting accordingly.

This recent activity by government officials emphasizes again the wide need for fully accepted methods for testing liquids, powders and pastes against roaches. There is also need for methods of test against other crawling insects, but right now, roach tests are most important. The Department of Agriculture is at present using a method for testing insect sprays against roaches which some entomologists in the insecticide industry hold is inaccurate and which does not give duplicatable results. If the industry develops a satisfactory test, the government officials will probably accept it as a standard. Otherwise, they may adopt the method now in tentative use to the possible detriment of all liquid sprays on the market.

Under these circumstances, the need for new standard roach testing methods is urgent, and one for testing liquid sprays is doubly so. The action of the National Association of Insecticide & Disinfectant Manufacturers in taking immediate steps to develop acceptable test methods brings to mind the years of Association research, the results of which were never crystallized into a definite official test procedure. Now it is essential that a suitable method be developed quickly or the industry concede its willingness to accept any test which government officials may promulgate.



WAX SUPPLIES

THE supply problem for manufacturers of floor waxes and shoe polishes has been brightened considerably over recent weeks by the arrival of a number of ships carrying substantial tonnage of carnauba wax—the first important quantity to reach the United States since last fall. The arrivals total approximately three thousand tons, which equal perhaps one-third of the total carnauba imports during the entire year 1943. If such a rate of arrivals could be expected to continue, carnauba users would obviously have nothing further to worry about as to wax supplies. The hitch is that there is no reason to anticipate future arrivals on this generous basis, or, in fact, at any predictable rate.

The future of the carnauba wax supply position is strictly a shipping problem, as we see it. There are stocks in Brazil awaiting shipment, but it is still an open question as to whether the War Shipping Administration will be able to allocate the necessary shipping space. Its decision must be based on a whole series of premises, quite

(Top) Brazilian carnauba plantation. (2) Native workers spread the carnauba leaves in the sun to dry. (3) By donkey to market. (4) Bales of carnauba leaves await shipment.

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April

A Review of the Current Market Outlook for Carnauba, Candelilla, Ouricury and Beeswax

By Arthur H. Hoffman

Strobmeyer & Arpe Company

apart from the need of American floor wax and other manufacturers, for future carnauba supplies. Comparative essentiality of other materials awaiting shipment in South American ports is the most important factor. Another factor which has impeded carnauba deliveries over the past year is that only a limited number of vessels have stopped at Parnahyba, which is the chief port of shipment for carnauba wax. One of the reasons, incidentally, why ouricury wax is more plentiful comparatively than carnauba, on the American market, is that Bahia, the chief shipping point for ouricury wax, has enjoyed better freight service with the United States.

To sketch in a little more of the background of the current carnauba wax situation, we must go back to 1942. That was the year when losses to submarines were running high, and a number of ships carrying substantial quantities of carnauba wax fell victims. Another factor contributing to the tight supply position was that WPB for a time was willing to issue import licenses for only small quantities of carnauba wax. This situation, incidentally, has since been corrected, and licenses have been obtainable for shipment of more substantial quantities since the latter part of last year. The unusually low level of arrivals during 1942, however, made it necessary for users to eat into their stocks, which

they have never since been able to build up. During 1943, it is estimated that approximately 9,000 tons of carnauba wax came into the United States, but this quantity was only sufficient to keep users operating on a hand-to-mouth basis. The recent arrivals of 3,000 tons have helped substantially, of course, but this material has been on order for many months, and practically all is probably sold under contract, and little can be expected to remain on the spot market in the hands of dealers.

Regarding available supplies of carnauba wax in Brazil, there is a moderate disagreement among importers. Some reports received here indicate that production from the first cuttings of the new crop, last fall, were rather disappointing, due to a rather dry season. Partial production from the second cuttings is only now starting on the journey to the seaboard and, therefore, the size of the full crop cannot yet be gauged. There is no disagreement, however, over the fact that shortage of shipping and, perhaps more important, uncertainty of shipping dates, has been a serious handicap to orderly importation. On one recent shipment of 1,400 tons, for instance, the four principal Brazilian firms involved had approximately two million dollars of their capital tied up over a period of four or five months. Obviously such a situation greatly

handicapped their further operations. With invasion plans pending in Europe, there is the natural fear that shipping space will become tighter rather than easier over the months ahead, and there is little incentive to build up heavy warehouse stocks in Brazil, which it might not be possible to ship for an indefinite period.

That Canada may be doing better from a supply situation is indicated by a recent slackening in controls on carnauba wax in the Dominion. Up until a few weeks ago, Canada had in effect a maximum limit of five per cent on carnauba content of floor and shoe polishes. This control has now been removed. A maximum limit on carnauba usage, it may now be stated, was considered for a time in the United States but was never put into effect. The recent additions to our carnauba stocks would now seem to make the imposition of such a control measure here less probable.

Reviewing the carnauba market pricewise, it is sufficient to observe that all grades are selling at the OPA ceiling levels. The price range is from 83 1/4c, f.o.b. New York, for No. 1 Yellow down to 71 1/4c for Chalky No. 3, in ton lots.

In even less optimistic position than carnauba wax is beeswax, the market for the latter wax being practically bare of supplies at the moment. The strain on the few available waxes has been aggravated of course by the disappearance from our wax market over the past few years of supplies of imported waxes on which we formerly depended. Imports of montan wax from Germany and Czechoslovakia before the war amounted annually to between three and four thousand tons, the crude montan going into shoe polishes and other products, and the refined grades being an ingredient of our floor wax production. Imported ozokerite, the bleached grades of which were to some extent used in floor wax, shoe polish and for other products, is also off our market, its sources in Poland and Galicia being denied to us. Japan wax, as its name would indicate, has also become unobtainable. In the

(Turn to Page 141)

POST WAR PLANS....



POST-WAR planning seems to be the current subject of discussion among trade associations, editors, Washington observers, and some others. Like the weather, everyone seems to be discussing post-war plans, but so far as we can determine not too much is being done about them in a practical way. From our own recent study of the subject, we gather that the post-war plan of the average firm in the sanitary products field counts on the supply trades to develop a host of new and startling products which returning service men can be re-employed to make and sell.

There are, of course, a few notable exceptions to this general picture, and we gather that a few firms have really given some serious thought to this problem which will quickly become such an important one once the war is over. It is understandable, however, that the firm with a specific new product in mind for the post-war period is obviously reluctant at this time to give out all details to the world at large and especially to its competitors. Nor do we place too much confidence in the promises that are currently being bandied about to re-employ each and every returning service man. In the back of our mind is the feeling that they will not be re-employed simply to sit around and take a burden off the government, but only if and where an actual need for their services exists.

In spite of these expressed misgivings on the whole subject of post-war planning, it is our thought that some good can be accomplished by presenting the views of representative members of the industry and reviewing some of the work that the Post-War Planning Committee of the National Association of Insecticide and Disinfectant Manufacturers has carried forward. That this committee is thorough-

Will become vitally necessary once war ends...but how many are real and how many just words?...first we must guess what is going to happen after the war...NAIDM carries on its post-war planning...manufacturers tell about their plans.

ly familiar with the difficulty of the task it has been given, and is not too sanguine as to the practical results which have been or may be accomplished, is pretty well indicated by the tone of its recent progress report to the Board of Governors of NAIDM.

The basic difficulty in all post-war programs is, of course, that no one can at present foresee just what situation we shall be confronted with. There could be an industrial boom which would quickly absorb returning service men and build up a consumer demand for new and old products, good and not-so-good products, products of any and all types after the style of 1919. A diametrically opposite view of the situation foresees a vast army of unemployed, an unbearable tax load, and industrial stagnation. Will the war in Europe be over this year or later? Will our returning service men and war workers be turned back to peace pursuits over a long or a short period? Will we be successful in avoiding inflation? Until these questions are answered, the difficulty for the individual company of shaping meaningful post-war plans is obvious.

There seems to be some useful ground work, however, that can be done now, at least by trade groups, if not by individual companies. The following suggestions for possible present fields of activity are taken from the report of the NAIDM post-war planning committee.

"The insecticide and disinfectant industry seems to have very little information on the exact value of the business as a whole, and apparently there is no clearing house through which this information can be collected and distributed. Such information would be of considerable value, and possibly this might be the time to figure some way to get it together.

"For instance, I don't believe anyone knows the value of the insecticides which are sold. I don't believe they have a very good idea as to the value of the different markets, such as the urban market as compared to the farm market, or the agricultural market. I don't believe they have too good an idea as to how it is split up with regard to liquid insecticides and insecticide dusts. The same thing will also apply pretty much to disinfectants.

THE June Meeting of the N.A.I.D.M. will have as its keynote "Postwar Planning" and I am sure that the members, when they come to the Chicago meeting, will be giving serious consideration to their postwar plans; so it is the purpose of this necessarily brief article to stimulate such thinking in order that we may have some concrete plans and concrete questions in our minds which we should be ready to discuss with our fellow members. Such discussions should prove mutually profitable. These discussions will also no doubt bring out certain questions to be asked of the experts who appear on our Postwar Program.

Because the membership of the Association is composed of men in so many different branches of the industry, no one plan—if one were possible, which it isn't—no certain line of thought can be followed by all, but certain basic thoughts can be developed to meet individual requirements.

As a foundation for planning, not a prediction, consider that the war with Germany will be over by the end of 1944, the war with Japan one year later. But also consider this: What would happen to your business, what would you do if a sudden collapse of Germany would bring an end to the war tomorrow?

One problem which we have with us now, and which will become intensified as time goes on, is that of former employees now being discharged from the Armed Forces. Have you scheduled your postwar personnel requirements, and have you made provision for re-hiring these ex-service men? Study the law and give much thought to this.

Have you prepared a schedule of new equipment, machinery, etc. which you must have. Have you considered the rearrangement of your plant or warehouse to secure a more orderly—and less costly—production process, a more satisfactory handling of inventory?

While considering production or inventory, have you considered the effect of continued governmental control of materials. It seems as though some such control is going to be continued. Can you get substitute materials? From whom? When? This line of thought will naturally lead to questions as to whether or not new products should be considered—and for the manufacturer this will lead to a host of problems which must be answered and plans laid. Both manufacturer and dealer should be considering those products now handled which are not profitable. Shall they be continued?

How much of your business is now going to war industries? If the war were to end tomorrow and the shift in population start, as it will, how will you be affected? What plans have you to regain markets which may have been lost through wartime regulations. Are you keeping your name before your public so as to make easier the regaining of lost markets? In other words, to whom are you going to sell? Who will sell it for you? Where do you plan to sell it and how?

Last, but not least, come financial considerations. You have made your various plans—both tentative and definite—now you must estimate the cost. Detailed schedules should be prepared for each set of plans. When finished, you should know for what you will have to expend money, with whom and when. Your plans should provide for possibly heavy losses in receivables, or at best, extended payments. Now then, where will the money come from? Does your present financial set-up cover you? Will you have to borrow? How much? Where? What terms?

It is granted that a lot of work is involved—hard, detailed work; but I submit that unless this is done many firms will go out of business. Is it worth it? There can be only one answer.

MELVIN FULD
Chairman Post-War Planning Committee
Nat'l Assn. Insecticide and Disinfectant Mfgs.

"If the Post-war Committee could obtain any worth-while information along these lines for distribution to the industry, that alone would probably prove the value of such a committee."

Another suggestion taken from the committee's report, outlining worth-while work that could be undertaken now, is as follows:

"Let's find out how much of our business is now going into the war effort and must be replaced by consumer business after the end of the war. There may be many members like ourselves who have no war business whatsoever and who are not concerned with replacing war business. There may be others who are wholly dependent upon war business at the present time. We might also find out how many employees are involved in making insecticides and disinfectants for the armed forces and how they will be affected by cessation of hostilities.

"Why not find out what our members are already doing in the way of post-war planning. I do not know that everyone is going to tip his hand about what fields he expects to exploit, type of product he expects to manufacture or how he is going to direct his sales efforts, but I believe most people will indicate what they plan to do with regard to research, plant expansion, etc.

"We might try to find out how many additional entomologists, bacteriologists, chemists and other specialized personnel will be needed. This might lead to the sponsoring of an educational program which will tend to develop the personnel the industry is going to need.

"We might find out something of our memberships' interest in materials, containers and things of that kind. Do we want to go back to metal, or would we rather stay with glass?"

TO supplement the work of the NAIDM committee, and to provoke further thought and discussion of post-war plans in anticipation of the symposium on this subject scheduled for the June convention of this group, the following opinions from a few rep-

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QUICK AND
LASTING
KNOCKDOWN



Consumers never heard of Peet-Grady tests. But seeing is believing. And when they see an insect knocked down by a spray, they want to see it stay knocked down—or else the spray is "just no good."

With sprays containing Thanite, the new toxic agent, insects take the count in greater numbers—as counted by authoritative Peet-Grady tests (see chart). Not only

Peet-Grady, but every authoritative form of test—university-conducted field tests; U. S. Government tests resulting in specification of Thanite for military use[†]; growing records of consumer acceptance—all these show the superiority of Thanite *in low, more economical concentrations.*

* Reg. U. S. Pat. Office by the Hercules Powder Company.
† This is a record of fact, not a Government endorsement.

NT-41



EFFICIENCY OF THANITE IN ECONOMICAL SPRAYS

Type of Base Oil	Percentage of Thanite	% Knockdown 10 Minutes	Grade
Deodorized Kerosene	1.75	98.4	B
"	2.00	98.9	A
"	2.50	99.2	AA
"	3.00	99.7	AA
"	5.00	100.0	AA
50 Viscosity White Oil	1.50	94.8	B
"	2.50	99.5	AA
"	5.00	99.6	AA

961 MARKET STREET

HERCULES POWDER COMPANY WILMINGTON, DELAWARE

representative trade leaders have been assembled.

Plans for Sales Expansion

"As we manufacture only finished products, of course, a great many of our post-war plans as to the products themselves depend upon developments by the base manufacturer. At present, we are watching very closely the development of new synthetic insecticidal materials. In the disinfectant field, we are greatly interested in high coefficient odorless disinfectants and are already making certain of these type disinfectants in the lower coefficients. However, our experience along this line is that it is going to take a general educational program to convince the general public that an odorless disinfectant is effective.

"In the cleaning field, we are already working with a new synthetic wetting agent and keeping close tabs on the newer oils developed by the war program for the manufacture of soap. Many of these new fatty acids and oils, we believe, will be permanent.

"However, our greatest field for post-war planning has been in the sales field. We are looking forward to a great expansion after the war. We have lost quite a few salesmen to the Army and Navy and all of these have had their positions promised to them again upon their return. The men now covering their territories have been promised new territories and financial backing to get them established in these territories. We are currying every territory to locate every available large outlet, so that they will be contacted with regularity after the war. Daily work reports have already been devised and put into effect to keep close tab over these contacts.

"Educational programs for our representatives, so that they can be of real service to the customer, are in process of being worked out or already worked out. We are now trying to educate certain of our field men, so that they will be able, in their turn, to thoroughly train the field men of the future."

Foresees Expanded Market

"Competition among industries for labor during this present manpower shortage has persuaded many companies who in the past have been somewhat backward in their sanitation programs to expand these programs for the benefit of the help or else lose their help to some company who had more to offer them in the way of cleanliness, comfort or consideration. There is very little chance of a backward step in this direction since such recent converts to the use of sanitary products have no doubt found that they have evidence of decreasing labor turnover, decreasing

absenteeism, and improvement in the health and morale of their employees as a whole. We foresee, therefore, a continuing growth in the industry when products and services are more freely available.

"The best way for any company today to prepare itself for its problems in the future is through the full and increasing use of the opportunities for research into new products and improved methods of manufacture and application."

Employee Rehabilitation

"One of the gravest post-war problems will be the rehabilitation of partially disabled war veterans into productive jobs. The veteran who is mustered out well and whole is fully protected; if he is qualified, the law states, he must be reinstated in his previous job or in a job of similar pay and at similar seniority status. But what of the man who returns from the armed forces suffering from wounds or illness or missing an arm or a leg or an eye. There has been no provision made for him. An Army hospital may return him to normal health, but it has not equipped him in any way for a job.

"That man is industry's problem. From the standpoint of health, that man is a good risk; but from the point of view of his productive capacity, he remains a problem. It is not argued that industry should seize the responsibility of rehabilitating every partially disabled veteran. On the other hand, if every large firm would provide the machinery for absorbing and training its own veterans, then the over-all job would be largely done.

"Our own program for handling such cases, which has already been subject to trial on numerous former employees who have been mustered out of service recognizes the job as primarily one of training. The program consists of three principal steps. The first is an informal interview between the veteran and a company supervisor, who may or may not be that man's previous boss. This interview will determine the veteran's own desires as to the work he would like to do; it will also reveal any special training he might have had while in military service that would have a bearing on the work he is qualified to do. The third and final step is to set up any vocational training that might be necessary to return the veteran to a self-sustaining position. For this, training within the company may suffice or it may be found necessary to suggest such training under the facilities of the Veterans' Rehabilitation Bureau or other local agencies.

"Overlaying the entire program, as we are applying it, is the psychological approach, the help and encouragement from management and the assistance from fellow employees which may do as much, or more, than

actual job training to develop in the veteran confidence in his ability to hold a job and to earn a living."

Pledges 25% More Jobs

"Our company has put itself on record with a public pledge to employ 25 per cent additional persons to those on our payroll as of December 21, 1943, after the war. We have been able to make this pledge because of products we have developed for post-war use and while we realize many companies are not in a position to make a similar pledge we hope those who can will do so and make specific promises. Our information indicates that the men in the services are anxious for something concrete in the way of industry's post-war plans rather than vague generalities."

Enlists Employees' Aid

"Too much planning begins with assumption of an ideal plant in an ideal location. This approach has many shortcomings. We were convinced that every person in every one of our plants had ideas about how his or her work could be done better, and how plant operations could be improved. By tapping this source we have been able to uncover some very worth while production ideas that are already being put to good use in speeding up production and which will be taken into consideration in planning a prospective new post-war factory.

"Our post-war planning program started with a dinner given 15 supervisors and 15 plant employees. A planning committee was selected and representatives appointed to explain our objectives to employees in the laboratory, various production groups, the packaging department, sales department, etc. Meetings in the departments have followed at regular intervals, and the committee representing the workers meets periodically with the chief executive. Some of the worth while suggestions that have resulted from the plan may be summarized as follows:

"An employee in our mop department suggested a new method and design for making mop sockets. By his method we were able to save the time of 7 girls on the packing line as well as 10,000 shoulder bolts and wing nuts on a daily average. In our opinion the savings suggested for both material and labor will approximate between \$20,000 and \$25,000 a year."

"An employee of our stamping department by suggesting a conveyor and a double riveter instead of a single riveting machine boosted the production on certain types of frames from an average of 600 a day to an average of 3000 a day with no increase in the amount of labor involved.

"An employee of our finishing department suggested that one half

YOUR SALES OF *Bright Beauty* WAX "STAY SOLD"

Yes sir, you can depend on getting re-orders whenever you sell Bright Beauty Floor Wax. No wonder! This "balanced" floor wax pleases all concerned. The maintenance staff likes the easy way it goes on the floor, the ease with which traffic marks can be blended . . . and the equal ease with which Bright Beauty can be removed when re-waxing becomes necessary. The purchasing department soon recognizes its long-term economy. And the "front office" enjoys its exceptionally bright lustre combined with non-slipperiness.

Compounding floor waxes with the essential properties correctly balanced calls for "know-how" . . . which CANDY & CO. has acquired in the course of more than 50 years' experience. The integrity of the makers is your guarantee that the products having *your* label will always be uniformly excellent. Write today for experimental samples and prices.

SOLD THROUGH DISTRIBUTORS ONLY

Bright Beauty products are sold through distributors only* . . . never direct to the consuming trade. It is our unalterable policy never to compete with our jobbers. Packed in attractive containers under your own label. Competitively priced, yet can be sold so as to allow you a liberal margin of profit.

*Except for experimental accounts in Chicago, essential to research.

CANDY & CO., INC., 2515 W. 35th ST., CHICAGO

Wax Specialists for Over 50 Years

Makers of Paste Wax, Spirit Liquid Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners.



gallon and one gallon jugs which are filled on siphon fillers be labeled prior to filling. The practice prior to this was to label first, then fill. This meant that a girl lifted a ten pound loaded jug instead of a three pound empty jug. The revised procedure not only eased the work of the 4 girls on the line but saved a good deal of money in breakage of the filled jugs in the labeling machine, and because of the ease of the operation, the girls increased their production 20 per cent.

"Electric eyes and infra-red lamps are being studied to improve the spraying of mop centers. Experiments are being run to combine sewing mops, slitting and transferring frames automatically to eliminate many individual operations. Better working conditions in all departments are being tackled and tried out. And every idea that proves itself in practice is added to the master plan."

To Extend Research

"We are contemplating a number of post-war moves which I imagine are pretty much along the same lines as those of most all manufacturers. Naturally we will re-employ all of our own and a number of additional service men to replace several superannuated employees who will be retired at that time.

"We are planning on extending our research work to be able to take advantage of the various new materials that have been developed during the war. We also contemplate improvements in our production methods which will involve the purchase of some new machinery."

Product Improvement Essential

"The two problems of re-employing returned service men and maintaining a peace time level of business at least equal to that of 1941 are our direct responsibility. If we fail to meet it we will invite the only alternative, i.e., Federal intervention. To put it boldly, we must employ those men, and do it by maintaining that business level, or else, Uncle Sam will do it and charge us handsomely, for the service.

"Factors which favor our success in this job, in the few years directly following peace are: large pent up demand for civilian goods and the money accumulated to buy them; high standard of living, created by war conditions, which will strongly resist deterioration; most important, particularly to our industry, the existing widespread demand for our goods and the knowledge of their effective uses—for example, whole industries, which never before gave their employees the advantages of our soaps, disinfectants and insecticides, have now accepted them as an integral part of their standard welfare program, not easily to be dislodged.

"We will do this job by giving better service to our customers. Improved devices, better products, both based on war developments, give us the tools better to serve the consumer. More intensive coverage of sales territories, will provide the basis for maintaining employment.

"Thousands of men who are now, in the Army or Navy, getting their first experience in the values of soaps, disinfectants and insecticides, will not willingly drop their use in peace time, if we make them available. Most employers, who, likewise, first adopted these welfare items, in war time, will continue to use them, in peace time, if we are on our job. To be on our job means to plan now for the expansion of sales, production and service staffs to make, sell and service the improved peace time lines."

WE have indicated earlier in this discussion that by no means all of the industry is in agreement as to the necessity for any post-war planning. Typical of this attitude is the following letter:

"I am not inclined to become very excited over post-war planning. I am probably of the 'Old School' which believes that if we take care of the present, the future will take care of itself."

Some of our readers, incidentally, even take a decidedly humorous attitude toward the whole subject of post-war planning, as may be gathered from the following observations on the subject.

"I am particularly glad that your publication has asked me about post war plans in the sanitary supply industry, because this is a subject to which we have given much study. We have a file of essays and brochures on this subject that is unequalled we dare say in this fair land.

"Our own plans are now fairly well crystallized. First we will concentrate on licking Roosevelt in 1948, we just can't miss that year. Secondly, we have prepared after much research and the use of non critical materials two large signs. They read "No Help Wanted." Thirdly, we are calmly awaiting the reappearance of the salesmen who disappeared shortly after Pearl Harbor and upon whom we exercised our sadistic talents. We are just waiting for them to try to sell us additional stock at half the price we paid for our left over bulging inventory.

"We are particularly qualified for long range planning because of our unique experience in the sanitary supply field. About 1922 we were

among the first to declare that para-dichlor benzene had no future as a toilet deodorant. The saloons as soon as they were permitted to reopen would still use the time honored cake of ice and the cheap ever present eviscerated lemon. Nor was that our only achievement. Who in his right mind would buy alcoholic window sprays that didn't really clean as well as ammonia and at what a price. This was another bull's eye.

"For forty years sanitary supply houses had been making formaldehyde sprays and trying to sell the consumers various devices, evaporators, urns, clay jars, etc. There simply was no demand for such a household item. Now this "Airwick" business . . . it can't last.

"Those geniuses in the sanitary products field who bring out new products after the war will still find us pontificating at the old stand. We can prove to you that we made just such an item in 1924 and it just would not sell, but just to make sure that there has not been a change in sentiment on the part of the new generation, we will have an identical product out in two weeks at a less price, and will have away your most successful salesman to introduce it for us."

Wax Mixtures

Melting-point curves are given for 45 binary mixtures of the following waxes: Beeswax, carnauba, esparto, gram, paraffin, shellac wax, sugar-cane wax, wool wax, a synthetic wax and hydrogenated oleostearin. Additions of small proportions of high-melting waxes such as shellac wax to paraffin increase its melting point considerably. W. J. Ellis. *J. Council Sci. Ind. Research* 16, 179-84.

Automobile Polish

Hot petroleum oil is mixed with 3 per cent of a liquid wax and a small quantity of alcohol. Water is mixed with about 3.5 per cent of this for use in polishing the lacquered parts of an automobile. H. Wittlich. German Patent No. 731,353.

Household Insecticide

Pyrethrum is used with kerosene and N-methyl-, ethyl-, propyl-, butyl- or isobutyl-3,4-methylene-dioxy-cinnamamide for making a household insecticide. S. I. Gertler and H. L. J. Haller, to the Secretary of Agriculture of the U. S. A., and his successors in office. U. S. Patent No. 2,326,350.

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PYRETHRUM . . .



NTIL the war is over, any discussion of the position of pyrethrum or anything else in the post-war markets must of necessity be mostly speculation. All that can be done is to weigh the evidence at hand today and evaluate it in the light of future possibilities. If the possible post-war position of pyrethrum is examined, it must be admitted that the product starts out with the advantage of being unique in its field. In all the research known up to date, no product has been found which has the prime advantages of pyrethrum, namely, quick action and safety to human beings and other warm-blooded animals.

In this connection, it is said that the various Government departments have tested quite a few hundred different compounds as possible insecticides, because of the pressure put on these agencies to find substitutes for pyrethrum, the supply of which unfortunately fell off sharply just about the time that our country entered the war. Arrivals of pyrethrum during 1943 are given as around 3,500 tons, against the normal annual import figure of 5,000 to 6,000 tons just prior to the war.

There are unfortunately no reliable figures, as far as this writer knows, giving the true picture of pyrethrum imports, but one publication gives a figure of 13,600,000 pounds for 1939, 12,600,000 for 1940 and something over 5,000,000 pounds for 1941, a year in which the size of the crop suffered because of poor weather and shortage of labor.

When Kenya flowers became available several years ago, this new source of supply was welcomed by users of pyrethrum as a distinct stabilizing influence in the market—insurance that insecticide manufacturers would not face the prospect of being

Where does it fit into the post-war picture? Will the chemical synthetics make it obsolete? A staff investigation of the pyrethrum side of the post-war insecticide market.

cut off completely from supplies of this essential ingredient in their products. The Kenya Farmers Association has done and can continue to do a great deal toward maintaining the pre-eminent position of pyrethrum as an insecticide raw material. Prices have been put on a generally firm basis and have been kept at a moderate level. The statement was made several years ago by a responsible source, incidentally, that pyrethrum can be produced in Kenya and sold at a profit for less than 18½¢ a pound. Due to increased cost of labor, however, the same situation would not apply today, and it is doubtful that even after the war cost of production will ever revert to the figures on which the above statement was based.

It is now reported that under government auspices Kenya producers have been persuaded to plant a tremendous acreage. At the end of 1943 there were 41,000 acres planted to pyrethrum, as compared with the pre-war figure of 5,000 acres. This increased production will not become available to the trade immediately, however, because it takes approximately two years for new plants to produce in commercial quantities.

What is to be done with this greatly increased acreage after the war is a problem which confronts growers in Africa as well as the trade in the United States. If the Kenya Farmers Association take a farsighted view and realize that with increased tonnage,

they can make just as much profit at a lower price as they would by selling a lesser quantity at a higher price, there is no reason why pyrethrum, with its superior advantages as an insecticide raw material should not compete successfully with the synthetic materials now available in the post-war market.

It is important to bear in mind also that even the best of these new synthetics require pyrethrum for quick action and to take care of those gaps of toxicity to certain insects which few of the substitute materials can entirely fill. In other words, pyrethrum is assured of an important position as a post-war insecticidal ingredient because these new synthetics will have to be combined with pyrethrum if the best results are to be obtained. For the moment, of course, and possibly for the duration of the war, synthetics of the thiocyanate type have taken over the world market, owing to the shortage of pyrethrum; but the synthetics still possess certain fundamental disadvantages, so that while they are attractive as extenders, they are far from being complete substitutes for pyrethrum. Reliable information indicates that even the new product DDT will require pyrethrum in reasonably substantial volume.

It is interesting to note that a rather extensive survey indicates that the average insecticide manufacturer would return to the use of pyrethrum immediately if it were available and if

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the price were in line with present costs. To regain a strong position in the post-war market, however, it is this writer's opinion that pyrethrum must be marketed at a lower price. The trend of the synthetics has, of course, been downward as to price; and the price of these materials may go even lower, as these manufacturers attempt to maintain the position they have gained through the accident of war-made shortages.

We may thus say that the future position of pyrethrum depends to a very large extent on the price policies pursued by the Kenya shippers. Modest quantities of pyrethrum will be available from other countries, some nearby and others in Africa, but the greatly increased use of the product as a result of war stimulation and the necessity for large-scale application of insecticides is bound to find us at the end of the war with a vastly expanded market in almost every corner of the world.

Malarial control has had extensive stimulation in India and in areas where our soldiers have been stationed for long periods, because it is no exaggeration to say that in many of these places insects and insect-borne diseases present a far greater problem than the enemy. Indeed, if the world is to be made a better place in which to live, one of the first measures to be taken is the control of these insect-borne diseases, and that will require extremely large tonnages of pyrethrum. The Kenya Farmers Association can, by the simple process of producing and selling pyrethrum at a price as low as consistent with good business management, assure the product a prominent place in post-war insect control.

It is roughly estimated that some 6,000,000 to 8,000,000 soldiers will return to this country after the war, very insect-conscious. That this is bound to result in a tremendously expanded market for insecticides seems without question. We know that in Mexico and the Central American countries extremely large programs of malarial control are under consideration and, in some cases, money has been appropriated for post-war pur-

chase of mosquito larvicides and other insecticidal materials.

We are not attempting here to evaluate the possible market agriculturally, since this depends so very much on the price of established competitive insecticide raw materials, such as the rotenones, but unquestionably there will be a good demand for pyrethrum in this field as well.

Unfortunately, there are no reliable figures as to the household insecticide market in the United States, but it has been estimated to be from \$20,000,000 to \$25,000,000 a year. Without any question this figure can be doubled within a five-year period after the war and perhaps sooner. It is not too much to say that if properly developed and handled, we may find ourselves with a world market sufficient to absorb not only a substantial production of synthetic materials but even greater quantities of pyrethrum.

It is a well known fact that even in the countries in Central and South America where per capita wealth is not great, insecticides are used by a greater percentage of the population than is the case in the United States by far. In many of the smaller Central American countries, even the smallest shack is not without its insecticide sprayer, and prior to the war these were pyrethrum insecticides. The countries of Central and South America present tremendous possibilities for the expansion of the insecticide business.

What are the possibilities, in the post-war period, of Japan regaining her former position as an exporter of pyrethrum? Those closest to the picture tell us that this prospect is not to be anticipated as even a remote probability—at least for a number of years. Food shortages in Japan are currently reported as very serious. With reduced acreage and manpower available for growing of food crops, it is natural to assume that production of pyrethrum has been restricted sharply for the duration. In any case, should Japan attempt in the post-war period to re-enter the world market as a pyrethrum supplier she would unquestionably find that many changes would have to be made in her former methods of culture and handling of the flowers.

The poor quality of Jap pyrethrum flowers was a by-word among American importers back in the days when Japan was the principal world supplier of pyrethrum. Improper drying and undue exposure to the elements ruined the crop of many a Jap farmer before it ever reached the market. Low pyrethrum content and failure of the flowers to test up to the claims of the exporter were the normal expectation. In any case, should Japan ever again regain any share in the world pyrethrum market, it is highly probable that her production could be absorbed by China and adjacent Russian areas.

Pyrethrum Testing

In view of the discrepancies in the values obtained by various chemical methods for the evaluation of pyrethrins I and II in pyrethrum extracts, a spectrographic method has been investigated. Being somewhat dependent on the results of the chemical methods, however, it has little advantage to offer. Standard spectroscopic values are recorded. A close spectrographic examination of pyrethrum extracts and residues obtained during the purification of pyrethrin concentrates has also been made in a search for a postulated third active principle in pyrethrum flowers. No evidence of the presence of any new substance possessing characteristic absorption bands of appreciable intensity has been found. A. E. Gillam and T. F. West. *J. Soc. Chem. Ind.* 63, 23-5 (1944).

Rodent Poison

There is practically no chemical change in zinc phosphide in poisoned grains intended to kill rats, under storage conditions. In field use some deterioration of this compound may be expected. J. W. Elmore and F. J. Roth. *J. Assoc. Official Agr. Chem.* 26, 559-64.

Disinfecting Paper

An individual disinfecting unit consists of a container holding a number of removable sheets of paper, each of which has had disinfectant applied to it. V. K. Elliott. Canadian Patent No. 418,648.

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ROTENONE DUST and SPRAYS

Loss of Rotenone and Deguelin from Alkaline and Acid Rotenone Dust Mixtures and Sprays

By

R. H. Robinson and M. B. Hatch*

THE widespread use of dusts and sprays prepared from the rotenone-bearing roots makes it desirable to combine them with other commonly used insecticides and fungicides and many miscellaneous acid and alkaline diluents. It is very generally accepted that rotenone decomposes rapidly under alkaline conditions. This knowledge has restricted its use mainly to the acid-reacting or neutral dust and spray combinations. Manufacturers, consequently, endeavor to avoid the use of alkaline diluents in the rotenone dust mixtures.

Although chemical investigations of pure rotenone and the rotenoids have been extensive, yet very little work has been reported on chemical changes or losses that may occur when the rotenone-bearing roots are used in various dusts and sprays. The early chemical studies of Jones and Haller¹ and others showed that rotenone decomposes in various organic solvents and especially under the alkaline powers of pyridine exposed to air. In entomological tests, Shepard² observed that rotenone in alkaline aqueous suspensions gave effective control of *aphis* when used immediately but lost toxicity on standing a week or more. Davidson and Jones³ also reported decomposition of rotenone in certain solvents and warned against the deleterious action of alkalies. In laboratory tests, Allen and Brooks⁴ found that kerosene extracts of alkaline rotenone dust mixtures kept in damp storage for seven

days had lost 75 per cent of their original toxicity to houseflies. These and similar investigations emphasize that rotenone is lost when used in alkaline media. It seems equally important to know whether this loss may be avoided by proper precautions and usage. Accordingly chemical studies were undertaken to learn conditions under which the losses of rotenone occur from various rotenone dust mixtures and spray suspensions.

Preparation of Dust Mixtures. In order to observe decomposition of the active ingredients in various rotenone dust mixtures, finely ground derris root was mixed with various alkaline, acid and neutral dust diluents. One hundred gram portions of the derris and the diluents were mixed thoroughly and screened. The proportions used are given in the tables. Each dust mixture prepared was then divided equally and placed in paper bags for storage under dry and moist conditions. One group of samples was stored under the dry conditions of the laboratory stock room, while their duplicates were placed in the moist atmosphere on the roof of a building covered continually with about two inches of water. The bags containing the samples were left open to allow free access to air and moisture but were protected from rain and direct sunlight with adequate shelter. Under these conditions the hygrometer registered 40 per cent or more relative humidity during the daytime, depending upon weather conditions, and practically 100 per cent humidity at night. Temperature conditions were variable according to the season of the

year. After intervals of storage under both dry and moist conditions, analyses were made for their rotenone and deguelin values.

Method of Analysis. The rotenone and deguelin color values were taken as indicative of the principal active ingredients of the rotenone dusts. Goodhue's⁵ modification of the Gross and Smith colorimetric method for the determination of rotenone and deguelin was changed somewhat as follows: After mixing the sample thoroughly .4 gm. of the dust mixture was weighed into a 100 ml. flask. At the same time 2.0 gm. samples were weighed out for moisture determination. About 80 ml. of C.P. acetone was then added to the flask and the rotenone and deguelin extracted by agitation in a shaking machine for two hours. The flask was then made up to mark with acetone, and instead of 2 ml. called for in the original method, 10 ml. aliquots were taken for the analyses. Equivalent multiples of the reagents required to develop the color were added in the usual order and the color density readings were made with a photoelectric colorimeter. Rotenone standards in acetone received the same treatment. Proper corrections were made for blanks. For accurate results careful control of both temperature and reaction time was important.

Tables 1 and 2 report the results of the analyses made at intervals for a period of a year. These are averages of two different series run consecutively covering a period of two years. For the sake of simplicity the rotenone-deguelin color values are referred to as rotenone.

*Chemist and assistant chemist, respectively, Insecticides and Fungicides, Oregon Agricultural Experiment Station.



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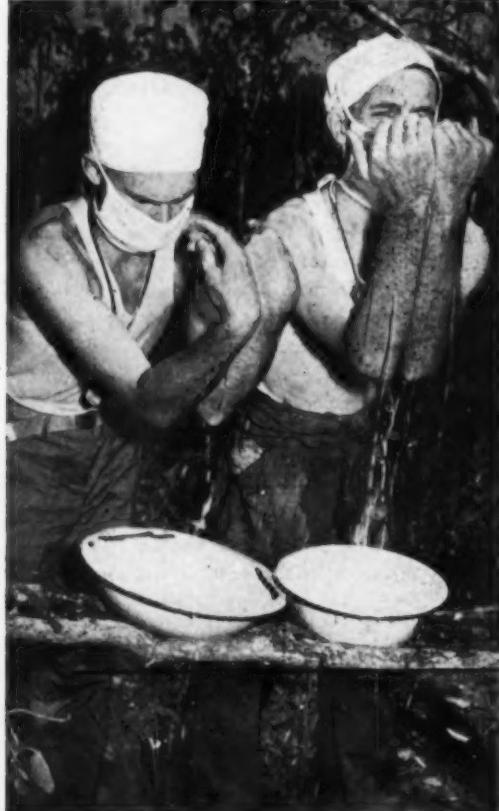
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THE results in the tables indicate that there was an amazingly small loss of the active components rotenone and deguelin in most of the dust mixtures. Furthermore there were surprisingly small differences in loss between identical dust mixtures held in moist and in dry storage. It is also apparent that the alkaline dusts did not lose any more rotenone than the acid and neutral mixtures. The moisture content of most of the dusts was relatively low, which probably accounts for the small losses. Had the moisture content been higher undoubtedly greater losses would have occurred. This was evident in some alkaline mixtures, such as the derris-bentonite-hydrated lime combinations, where sufficient moisture was absorbed to facilitate a slow but definite decomposition of the rotenone. The small losses recorded for most of the mixtures, however, may be attributed to the slow action of light and air. Under industrial storage conditions it may be assumed that even smaller losses would occur in commercial dust mixtures where large volumes are not subject to exposure.

The dust mixtures treated with petroleum, soybean, and herring oils present some interesting results. The petroleum oil apparently functions as an inert substance. Both soybean and herring oils, however, caused a progressive decomposition of the rotenone during the storage period. Analyses run of one series after two years' storage showed a loss of about 30 per cent of the rotenone in the dust. It may be observed from these results that loss of the active ingredient from the various dust combinations, including the oil-treated dusts, is very slow and for all practical purposes may be disregarded.

Rotenone losses from dust mixtures maintained at 50 per cent moisture content. To learn whether losses occur when sufficient moisture is present in alkaline dusts, water was added to several of them to produce a 50 per cent moisture content. These dusts together with dry duplicates were then stored at 23° C. for 7 days. Analyses of the mixtures after that period are given in Table 3.

These results show that the rotenone in alkaline dust mixtures with

TABLE I
Rotenone and deguelin color values of derris dust mixtures in moist storage.

No.	Dust Mixture	pH	Ave. Moisture %	After Mixing %	After 3 Mo. %	After 6 Mo. %	After 12 Mo. %	Loss %
1.	Derris, 1 part Talc #1, 4 parts.....	7.5	2.1	2.49	2.39	2.37	2.36	5.2
2.	Derris, 1 part Talc #1, 3 parts..... Hydrated lime, 1 part	12.5	2.9	2.38	2.30	2.28	2.20	7.6
3.	Derris, 1 part Talc #2, 4 parts.....	6.9	2.2	2.45	2.35	2.40	2.36	3.7
4.	Derris, 1 part Talc #2, 3 parts..... Hydrated lime, 1 part	12.5	2.6	2.38	2.29	2.31	2.26	5.0
5.	Derris, 1 part Pyrax, 4 parts.....	5.8	1.5	2.49	2.44	2.46	2.40	3.6
6.	Derris, 1 part Pyrax, 3 parts..... Hydrated lime, 1 part	12.5	1.8	2.40	2.36	2.37	2.28	5.0
7.	Derris, 1 part Frianite, 4 parts.....	5.9	1.7	2.29	2.27	2.21	2.21	3.5
8.	Derris, 1 part Diatomaceous earth, 4 parts	6.0	7.9	2.53	2.48	2.37	2.33	7.9
9.	Derris, 1 part Bentonite, 4 parts....	8.3	14.1	2.56	2.51	2.50	2.44	4.7
10.	Derris, 1 part Bentonite, 3 parts.... Hydrated lime, 1 part	12.2	8.4	2.48	2.40	2.27	2.21	10.9
11.	Derris, 1 part Calcium arsenate, 4 parts	8.1	2.7	2.36	2.29	2.30	2.22	5.9
12.	Derris, 1 part Calcium arsenate, 3 parts	12.5	3.1	2.41	2.25	2.19	2.12	12.0
13.	Derris, 1 part Lead arsenate, 4 parts.	5.5	1.7	2.31	2.25	2.19	2.17	6.0
14.	Derris, 1 part Firwood flour, 4 parts.	4.6	15.8	2.55	2.45	2.46	2.36	7.4
15.	Derris, 1 part Redwood flour, 4 parts	2.8	14.3	2.56	2.48	2.51	2.46	3.9
16.	Derris, 1 part Walnut shell flour, 4 parts	4.9	9.8	2.42	2.44	2.37	2.35	2.9
17.	Derris with 5% petro- leum oil, 1 part..... Talc #2, 4 parts	6.8	2.0	2.34	2.28	2.28	2.26	3.4
18.	Derris with 5% soy- bean oil, 1 part..... Talc #2, 4 parts	6.6	2.5	2.28	2.13	1.96	1.88	17.6
19.	Derris with 5% herring oil, 1 part..... Talc #2, 4 parts	6.7	1.4	2.38	2.24	2.11	1.98	16.8
20.	Derris root (5.6% rotenone)	5.7	14.9	12.68	12.37	12.29	12.10	4.6

sufficient moisture break down rapidly. Apparently the conditions were optimum for oxidation of the rotenone under an alkaline environment. At 50 per cent moisture content the mass was

saturated yet granular enough to permit a large surface exposure to air. In the acid-reacting dust mixtures, however, very little decomposition of rotenone was indicated.

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TABLE 2

Rotenone and deguelin color values of derris dust mixture in dry storage

No.	Dust Mixture	pH	Ave. Moisture %	After Mixing %	After 3 Mo. %	After 6 Mo. %	After 12 Mo. %	Loss After 12 Mo. %
1.	Derris, 1 part Talc #1, 4 parts.....	7.5	2.1	2.49	2.46	2.40	2.38	4.4
2.	Derris, 1 part Talc #1, 3 parts..... Hydrated lime, 1 part	12.5	1.3	2.38	2.38	2.36	2.30	3.4
3.	Derris, 1 part Talc #2, 4 parts.....	6.9	1.3	2.45	2.44	2.39	2.38	2.9
4.	Derris, 1 part Talc #2, 3 parts..... Hydrated lime, 1 part	12.5	1.4	2.38	2.34	2.34	2.29	3.8
5.	Derris, 1 part Pyrax, 4 parts.....	5.8	1.1	2.49	2.51	2.45	2.41	3.2
6.	Derris, 1 part Pyrax, 3 parts..... Hydrated lime, 1 part	12.5	1.2	2.40	2.37	2.37	2.31	3.7
7.	Derris, 1 part Frianite, 4 parts.....	5.9	1.5	2.29	2.29	2.26	2.24	2.2
8.	Derris, 1 part Diatomaceous earth, 4 parts	6.0	4.8	2.53	2.50	2.41	2.29	9.5
9.	Derris, 1 part Bentonite, 4 parts....	8.3	7.8	2.56	2.50	2.42	2.38	7.0
10.	Derris, 1 part Bentonite, 3 parts.... Hydrated lime, 1 part	12.2	6.2	2.48	2.46	2.39	2.32	6.5
11.	Derris, 1 part Calcium arsenate, 4 parts	8.1	2.2	2.36	2.34	2.33	2.26	4.2
12.	Derris, 1 part Calcium arsenate, 3 parts	12.5	2.2	2.41	2.36	2.34	2.28	5.4
13.	Derris, 1 part Hydrated lime, 1 part							
14.	Derris, 1 part Lead arsenate, 4 parts.	5.5	1.2	2.31	2.30	2.23	2.24	3.0
15.	Derris, 1 part Firwood flour, 4 parts.	4.6	6.5	2.55	2.55	2.52	2.52	1.2
16.	Derris, 1 part Redwood flour, 4 parts	2.8	10.7	2.56	2.58	2.54	2.56	0.0
17.	Derris, 1 part Walnut shell flour, 4 parts	4.9	6.2	2.42	2.40	2.43	2.40	0.8
18.	Derris + 5% petroleum oil, 1 part..... Talc #2, 4 parts	6.8	1.7	2.34	2.35	2.32	2.33	0.4
19.	Derris + 5% soybean oil, 1 part..... Talc #2, 4 parts	6.6	1.1	2.28	2.18	2.06	1.94	14.9
20.	Derris + 5% herring oil, 1 part..... Talc #2, 4 parts	6.7	1.1	2.38	2.29	2.14	2.04	15.1
21.	Derris root (5.4% rotenone) ...	5.7	6.1	12.68	12.27	11.87	11.56	8.8

Decomposition of Rotenone in Spray Suspensions. To learn whether rotenone decomposes rapidly in spray suspensions, similar acid and alkaline

combinations were added to water at spray strength. Dilutions were made at the rate of five pounds of the derris incorporated in the dust to 100 gallons

of water. Immediately after preparation of the spray mixture and five hours, 24 hours, and three days thereafter glass plates were sprayed with the different mixtures. After drying, the plates were then extracted with acetone and analyzed for their rotenone-deguelin values. No decomposition of the rotenone was indicated after the five-hour and 24-hour periods for either acid or alkaline spray suspensions. After three days small losses developed in all spray mixtures. For practical spraying purposes it may be concluded that the rotenone-bearing roots may be used in combination with other alkaline or neutral spray materials or spreaders without fear of decomposition during the short period in the spray tank and while drying on the plants sprayed.

Dust Deposit Tests. An effort was made to learn whether alkaline dust mixtures lose rotenone more rapidly than neutral or acid mixtures when applied to moist plant surfaces. Accordingly similar dust combinations were prepared as described under the storage tests. One hundred gram portions of the dust mixtures were then applied in excess to Montmorency cherry foliage, care being taken to dust evenly over similar areas of the tree. Applications were made early in the morning while there was still moisture on the leaves and little or no wind prevailed. Very heavy deposits of the dusts were thus obtained.

Immediately after application duplicate samples of leaves averaging about 200 square centimeters of surface were collected for analysis. Each morning thereafter for six days similar samples were collected. Analyses were made for the rotenone-deguelin value and for the amount of dust particles adhering to the leaves. The rotenone was extracted by impaling the leaves progressively in three different solutions of acetone, scrubbing thoroughly to remove all particles of dust. The solutions were then adjusted to 50 ml. volume and 10 ml. aliquots were taken for analyses as usual. The dust sediment was filtered off and weighed.

The results of nine series of orchard tests carried on during two seasons gave erratic results. The amount of dust deposited by the differ-

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Table 3. Rotenone and deguelin color values of dust mixtures held at 50 per cent moisture content for 7 days.

pH	Original dry dust	Air-dried after 7 days		Oven-dried after 7 days	
		%	%	%	%
Derris root	5.7	14.30	14.34	...	14.15
Derris, 1 part					...
Talc, 4 parts.....	7.2	2.72	2.69	...	2.74
Derris, 1 part					...
Talc, 2 parts.....	12.5	2.61	1.77	32.2	1.37
Lime, 2 parts					47.5
Derris, 1 part....	12.5	2.55	1.62	36.5	1.37
Lime, 4 parts					45.9

ent rotenone mixtures varied materially and mechanical losses from day to day because of wind, rain and rubbing of the leaves, made comparisons impossible. The data obtained, however, indicated trends but have no statistical value. Mechanical losses during the first 24 hours varied between 15 and 90 per cent of the amount found immediately after application of the dusts. Some mixtures, such as the firwood and walnut-shell flours and those treated with oil, showed a high initial deposit. Other dust mixtures deposited less than half this amount. There is no evidence, however, that any of the alkaline mixtures lost rotenone more rapidly than the neutral or acid combinations. After six days, appreciable amount of rotenone remained from all of the dust mixtures. Aside from the mechanical losses, it may be assumed that decomposition by direct sunlight was the causative factor and similar for all dusts.

Conclusions. Miscellaneous alkaline, neutral and acid rotenone dust mixtures lose rotenone very slowly under both moist and dry storage conditions. When, however, water is added to an alkaline rotenone dust to produce an optimum condition, rapid decomposition occurs.

Rotenone in derris root combined with acid or alkaline diluents in water at spray dilution showed no decomposition during three days. It may be assumed for all practical purposes that rotenone-bearing roots may be used without fear of decomposition in sprays combined with alkaline spreaders, deposit builders or other insecticides if applied immediately after preparation.

Analysis of dusted leaves indicates that rotenone is lost from both

acid and alkaline mixtures at about the same rate.

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Published as Technical Paper No. 436 with the approval of the Director of the Oregon Agricultural Experiment Station, from Department of Agricultural Chemistry.

Test New Plant Insecticides

Results on a series of test of various plants for insecticidal properties, carried out by Dr. Albert Hartzell of the Boyce Thompson Institute for Plant Research, Yonkers, N. Y., are reported in the January-March, 1944, issue of *Contributions from Boyce Thompson Institute*. Dr. Hartzell's findings are summarized as follows:

Plant products, upward to 125 species and varieties of plants, and three isolated toxins derived from plants, were tested for insecticidal properties. Of this number, acetone extracts of 11 species and varieties gave median lethal dose values (LD₅₀s) between 24 p.p.m. and 520 p.p.m. to mosquito larvae (*Culex quinquefasciatus* Say). Water extracts of none of these products gave kills within this dose range.

The median lethal dose expressed in p.p.m. for mosquito larvae of acetone extracts of the 11 most promising insecticides tested, as compared with an LD₅₀ of 0.06 for the isolated toxin rotenone, follow: cubeb berries 24, black pepper 29, *Koelreuteria paniculata* Lamx. seeds and leaves 245,

elder flowers 300, jalap root 380, *Papaver* flowers and stems 440, and seeds of the following: Golden Summer Crookneck squash 450, Connecticut Straightneck squash 460, anise 470, Henderson cucumber 520, and honey dew melon 520.

Acetone extracts of black pepper, prickly ash bark, and watermelon seeds at concentrations of approximately 4000 p.p.m. failed to give satisfactory kills of *Apolis rumicis* L.

Negative results were also obtained with an acetone extract of black pepper (1.2 per cent) emulsified with Penetrol (0.5 per cent) in water when tested as a stomach poison on Mexican bean beetle (*Epilachna varivestis* Muls.).

Satisfactory kills were obtained with this insect when bean plants were dusted with black pepper and adults allowed to feed on the foliage under experimental conditions in the greenhouse.

Naphthalene Insecticides

Paranaph, an emulsion of naphthalene, kerosene and soft soap, and Creonaph, containing a coal-tar distillate boiling at 250-350° C. in place of the kerosene, are said to show promise as substitutes for nicotine insecticidal preparations. G. A. H. Nelson and R. F. Powning. *J. Council Sci. Ind. Research* 16, 107-8.

Test for Utensil Sanitation

A proposed standard test method for determining presence of bacteria on food utensils has been developed by the Subcommittee on Food Utensil Sanitation of the Committee on Research and Standards of the American Public Health Association, and was published in the March, 1944, issue of the *American Journal of Public Health*. The method is a revision of the swab-rinse count in the light of recent experience and is being submitted for further criticism before adoption as a standard method by the association. Suggestions for revision are desired, and may be addressed to W. D. Tiedeman, New York State Department of Health, Albany, N. Y., chairman of the committee. Copies of the proposed method are also available through Mr. Tiedeman.

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NEWS...

Kirkpatrick Joins Hess & Clark

M. Glen Kirkpatrick, educator, writer and editor (he was formerly managing editor of the *Farm Journal*) has recently joined Dr. Hess & Clark, Inc., Ashland, O., to be in charge of the company's service bureau. The product of an Iowa farm, Mr. Kirkpatrick taught country school, attended Iowa State College, later becoming farm editor on the Des Moines *Daily Register*. His next position, for 23 years on the editorial staff of the *Farm Journal*, culminated in his attaining managing editorship of that paper. At Dr. Hess & Clark, Mr. Kirkpatrick will report on developments of scientific laboratory discoveries in the field of disease and parasite control in animal husbandry.

Plan Revise of Roach Test

Enough information is now available to show that the U. S. Department of Agriculture roach testing method as written is definitely not satisfactory, according to a statement just issued by F. C. Nelson of Stanco, Inc., New York, chairman of the Insecticide Scientific Committee of the National Association of Insecticide and Disinfectant Manufacturers. This conclusion is based on work being done at Wilmington College under Dr. Hazard and, will necessitate complete revision of the method before publication. It is hoped that the method will be in shape to be reported on completely at the June N.A.I.D.M. meeting, Mr. Nelson said.

Powell's Weitner Over Berlin

Major Walter Weitner, formerly in charge of entomological testing in the laboratory of John Powell & Co., New York, was the first American pilot to fly alone over Berlin on a reconnaissance mission following the first daylight bombing of Berlin by the American Air Force on March 6. In an unarmed high-speed reconnaissance plane, Major Weitner, commander of an American aerial photo-

graphic squadron based in England, flew alone to Berlin to photograph the results of the bombing. He was attacked by German fighter planes but



MAJOR WALTER WEITNER

completed his mission and returned safely to England being cited for the exploit.

Another Powell employee, also from the entomological laboratory, Sgt. George Kendrick has been missing in action for the past four months. A tail gunner on an American bomber, he was shot down on November 26 last in a large daylight raid on Hamburg, Germany. No word has been received in regard to him since that time.

Badertscher on McCormick Board

Election of Dr. Amos E. Badertscher, chief entomologist of McCormick & Co., Baltimore, to the company's senior board of directors, was announced Mar. 6, by C. P. McCormick, president. Dr. Badertscher, who joined McCormick & Co. in 1931 after broad experience teaching in mid-western schools, is a graduate of Bluffton College, Bluffton, O.; Ohio State University and Rutgers University. A member of the American Association for the Advancement of Science, the American Association of American Entomologists, the Washington (D.C.) Entomological Society and the Baltimore Engineers Club, he is also a member of the Insecticide Advisory Com-

mittee of the War Production Board, War Food Administration and the Office of Price Administration. He was chairman of the Insecticide Scientific Committee of the National Association of Insecticide and Disinfectant Manufacturers from 1941 through 1943. Dr. Badertscher makes his home in Towson, Md.

Mosquito Exterminators Meet

Election of officers for the coming year, opposition to a bill which would transfer the power of appointing mosquito extermination commissioners from Supreme Court Justices to Boards of Freeholders, a warning against possibility of an epidemic of malaria through veterans returning home from overseas duty and a description of the experiments conducted with mosquitoes caught in the back yards of poliomyelitis cases in Chicago by the Board of Health there during the infantile paralysis epidemic of 1943, were the highlights of the 31st annual convention of the New Jersey Mosquito Extermination Association, Mar. 16 and 17, at the Hotel Madison, Atlantic City, N. J.

Two New N.A.I.D.M. Members

The National Association of Insecticide and Disinfectant Manufacturers, New York, in a recent bulletin announced the election to active membership of the following two firms: Al-Jax Chemical Co., A. L. Jackson, owner, Broadway at Second St. Seymour, Ind., manufacturers of school supplies, chemical specialties, etc. The other new NAIDM member is Hockwald Chemical Co., L. Hockwald, manager, 135 Mississippi St., San Francisco.

Entomologists and PCO's Meet

War time and post-war problems were discussed at the twenty-third annual conference of the North Central States Entomologists held at the University of Illinois, Urbana-Champaign, Mar. 30-31. Dr. C. L. Metcalf, head of the Department of Entomology, was chairman of program arrangements. Pest control operators were invited to attend.

REMEMBER?

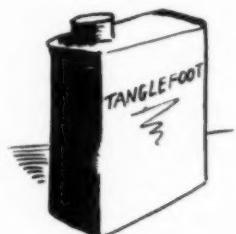
10 YEARS AGO



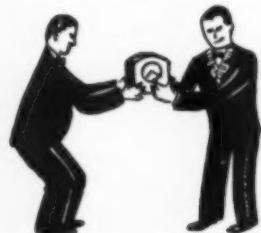
WASHINGTON RED TAPE WAS STILL HOLDING UP THE NRA CODE OF THE INSECTICIDE AND DISINFECTANT INDUSTRIES, BUT IT WAS FINALLY SIGNED TO BE EFFECTIVE APR. 18, 1934



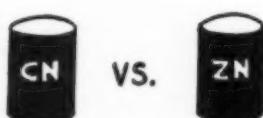
WM. O. BUETTNER WAS RE-ELECTED PRESIDENT OF THE N.Y. SOCIETY OF EXTERMINATORS AND FUMIGATORS



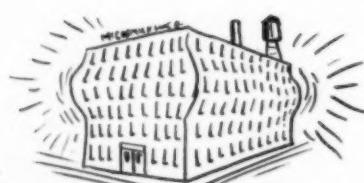
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JAMES VARLEY, OF BAIRD & McGuIRE, WROTE AN ARTICLE IN THE ST. LOUIS CHAMBER OF COMMERCE NEWS, "ST. LOUIS AS THE CENTER OF DISINFECTANT MANUFACTURE".



Why the D. D. T. Mystery?

COMMENTING editorially on the "new insect killer called D.D.T." the *Chicago Tribune* in an editorial last month called particular attention to the mystery surrounding the Army ban on publication of facts about D.D.T. for the benefit of American agriculture and the insecticide industry. The editorial stated:

"Largely thru the initiative of trade publications the public is beginning to learn a little about a new insect killer called D-D-T. This is short for its chemical name, dichloro-diphenyl-trichlorethane.

"D-D-T gives every evidence of being, in its own field, as miraculous a substance as the sulfa drugs or penicillin. It is harmless to humans and warmblooded animals, yet fatal to a wide variety of insects when used in fantastically dilute quantities. Clothing treated with it is still louse-proof after five or six launderings and the chemical will kill flies a month or more after it has been sprayed on stable walls.

"It has been one of the principal agents used in protecting the civilian population of occupied Italy against spread of typhus, which is borne by lice. It is used in 'health bombs,' a type of disseminator issued in large quantities to troops in Africa and the Pacific to protect their quarters and camps against insects.

"The army, after an unfortunate experience with pyrethrum powder, which it bought in large quantities as a delousing agent, only to run into the well known medical fact that about one person in 30 is violently allergic to this substance, has now concentrated on D-D-T. At present the army is taking the whole production, which is large.

"Commercial insecticide manufacturers and users do not quarrel, naturally, with this army priority, but they are more than a little disgruntled at suppression of any discussion of its uses. At a scientific meeting a few months ago in Philadelphia the department of agriculture, asserting that it was acting at the request of the war department, caused all the papers on D-D-T to be suppressed.

"The patents on D-D-T are held by a Swiss company. Swiss industry is notoriously subject to German influence and, moreover, D-D-T was patented in Germany in 1939 before patents were obtained in either Great Britain or the United States. Some of the scanty information that American technical journals have printed on its uses, such as the protection of cow

stables again flies, was translated from German publications. Any such information that the Germans have the Japanese are sure to get, as well.

"Apparently the only people who are being kept in the dark by the suppression of information are the citizens of the United States. D-D-T is expected to be as useful in peace time as in war. If it fulfills present expectations it may displace the poisonous arsenates and perhaps other important insecticides, such as rotenone. The secrecy thrown about it, and the failure to provide modest quantities for experimental use by insecticide manufacturers and commercial fruit and vegetable growers, is a serious disservice to American agriculture."

Develop New Insecticide Sprayer

Maryland Agricultural Experiment Station, College Park, Md., reports the development of a piece of equipment for application of concentrated water sprays which is said to promise more efficient use of insecticides at reduced spraying cost. Preliminary experiments showed that one pint of derris extract in ten gallons of water per acre, when finely atomized, is as effective as the one quart in 100 gallons used in ordinary spraying. Work of the Station on control of corn earworm, European corn borer, pea aphid and tobacco insects is covered in the Station's latest annual review of its activities, for 1941-42. Publication of a technical bulletin on "The Pistol Casebearer in Maryland," by H. C. McConnell, station entomologist, was made during the year.

W. B. Eddy, Jr. War Prisoner

Lieut. Willard B. Eddy, Jr., son of W. B. Eddy, president of the Rochester Germicide Co., Rochester, N. Y., has been reported missing over Italy since January 27. Recent advices to Mr. Eddy, Sr. are that Lieut. Eddy, pilot of an Army medium bomber is a German prisoner of war after having been forced down in the Italian theatre of operations. Lieut. Eddy, a graduate of Hamilton College in 1941—also his father's alma mater,—entered the Army in Sept., 1941, and

was assigned to foreign service in August, 1943. W. B. Eddy, Sr. is a former president of the National Association of Insecticide & Disinfectant Manufacturers and an active member of the Board of Governors for many years.

Perfumers' Handbook

Fritzsche Bros., Inc., New York, have just published and are now distributing to perfume chemists and buyers of aromatic chemicals a 268-page Perfumers' Handbook and Catalog which contains a wealth of useful information relating to essential oils, aromatic chemicals and perfuming specialties. The book is sectionalized, with the first part dealing with essential oils, floral absolutes and concretes, fixatives, aromatics, etc. For each material tables are provided showing such important details as application, volatility, solubility, stability in soap, tendency toward discoloration, etc. A second section describes a series of Fritzsche perfume specialties for soaps, disinfectants, insecticides, para blocks, bath salts, cosmetics, etc. In section three are included a series of tables, giving information on boiling and melting points of aromatic chemicals, alcoholic dilution, etc. The book is not for sale and distribution is at the discretion of Fritzsche Bros.

Bulletin on Agricultural Insecticides

"Insects and Other Pests of Florida Vegetables" is the title of a 120-page bulletin issued by the Florida Agricultural Experiment Station, Gainesville, Fla. Life histories and control measures of all the principal insects affecting the state's vegetable crops are presented, classified under the crops attacked. S. R. Watson, head of the station's entomology department, and A. N. Tissot, associate entomologist, are authors of the booklet, designated as Bulletin No. 370.

Eveready Exterminating Moves

Eveready Exterminating and Janitors' Supplies Co. has moved to 257 Main Avenue, Passaic, N. J., according to Donald Steinberg, manager. The telephone number PAssaic 2-4858 remains the same.

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THE insecticide and disinfectant contingent who attended the annual dinner of the Drug, Chemical and Allied Section of the New York Board of Trade at the Waldorf-Astoria, New York, on March 9. Back row: Capt. John Armitage, C.W.S.; J. L. Brenn, Huntington Laboratories; J. Alvin Smith, John Powell & Co.; William Haude, John Powell & Co.; William Mahnken, Geigy Co.; C. L. Weirich, C. B. Dolge Co.; Melvin Fuld, Fuld Brothers; John Marcuse, West Disinfecting Co.; Charles Furst, Furst & McNess Co. . . Front row: A. W. Morrison, Socony-Vacuum Oil Co.; W. J. Zick, Stanco, Inc.; George Hartz, John Powell & Co.; J. N. Curlett, McCormick & Co.; N. J. Gothard, Sinclair Refining Co.; Ira P. MacNair, Mac-Nair-Dorland Co.; Col. W. H. Chamberlain, C.W.S.; C. C. Nowland, George H. Nowland Co.; John Powell, John Powell & Co.; Gordon M. Baird, Baird & McGuire, Inc. Seated: Friar Thompson, Hercules Powder Co.; Ira Purdy, Westinghouse Electric & Mfg. Co.; Dr. Alfred Weed, John Powell & Co.—Photo by Charles Opitz of John Opitz, Inc.

Build New Freon Plant

Kinetic Chemicals, Inc., Wilmington, Del., a jointly-owned subsidiary of General Motors Corp. and E. I. du Pont de Nemours & Co., is building a new plant at East Chicago, Ind., for the manufacture of "Freon-12," the gas used as a propellant in aerosol type insecticides and as a refrigerant. The plant is being built on the property of Du Pont's Grasselli chemicals department and the equipment going into it is being leased

from the Defense Plant Corp. The East Chicago plant will have a capacity of approximately 2,000,000 pounds of "Freon" per month. Freon is dichlorodifluoromethane and is at present manufactured only at the Kinetic Chemicals plant at Carney's ((Deepwater) Point, N. J. The greatly increased demand for "Freon" for the manufacture of aerosol insecticides for the armed forces is reported responsible for building the new East Chicago plant.

Buettner Joins OCR

William O. Buettner, secretary of the National Pest Control Association, recently accepted an invitation from the Office of Civilian Requirements of the War Production Board to serve as a business consultant on pest control. Mr. Buettner will spend one or two days a week in Washington in connection with this government work.

New Chlorine Plant in W. Va.

A new electrolytic chlorine plant has recently been placed in operation by the Columbia Chemical Division of the Pittsburgh Plate Glass Co. at Natrium, W. Va. Financed by the Defense Plant Corporation, this is one of the largest installations ever built as a unit. It will provide a substantial increase in the nation's supply of chlorine.

Appoint Bell Pittsburgh Rep.

S. H. Bell Co., 1331 Gulf Building, Pittsburgh, has been appointed as the district representative in the Pittsburgh area for Inland Steel Container Co., formerly Wilson & Bennet Mfg. Co., Chicago.



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Fly Control By Electricity

"Automatic Fly Control By Electricity" is the title of a pamphlet being distributed by Detjen Corp., New York, in behalf of their electrical installations for killing flies. The pamphlet illustrates and describes three types. One is the "electric fly screen" which consists of a grid of horizontal metal bars which is fastened to an insulated metal and wood frame $1\frac{1}{8}$ inches thick. The bars are spaced $9/32$ of an inch apart. Energized by a specially constructed transformer, flies are said to be instantly electrocuted in attempting to pass between the bars since the moisture in the body of the insect completes the electric circuit. This device is available in all sizes to fit any door or window opening. The third method of destroying flies is the portable electric fly trap. This instrument is 26 inches long, 20 inches wide and 6 inches deep. It is complete with a built-in transformer and plug-in cord. Across the top of the box like structure is the grid. Bait is placed inside the box to attract to the flies, which when they attempt to pass between the bars of the grid to enter the box are electrocuted. Among the users of these types of fly killer are dairy farms, restaurants, hospitals, hotels, food stores, bakeries, etc.

Acme Chemical Changes Name

A new company name, Buttner & Long, Inc., has been chosen to succeed the previous name of Acme Chemical Corp., sanitary maintenance products firm of Baltimore. Reason given for the change in name was that the business has expanded to other states where other firms trade under the same name and in order to avoid confusion and to protect its interests, the Acme name was discontinued. No other changes in management, products or personnel were made.

National Wax Now International

National Wax Refining Co., manufacturers and refiners of waxes, Brooklyn, announced a change in name recently to International Wax Refining Co. The change in name was made, according to Frank W.

Clarke, general manager, because of the company's intention to expand its scope of operations in the immediate future and in the post-war period. The company was recently awarded a contract from the U. S. Navy for 40,000 pounds of carnauba wax.

Pyrethrum Processors Com. Named

Names of the members of a Pyrethrum Processor's Industry Advisory Committee meeting in Washington with representatives of the Office of Price Administration, Mar. 7, were released on that date and include: W. E. Dermody, Gulf Oil Corp., Pittsburgh; C. B. Gnadinger, McLaughlin, Gormley, King Co., Minneapolis; A. E. Badertscher, McCormick & Co., Baltimore; R. P. Neptune, Alaire-Woodward & Co., Peoria, Ill.; John Powell, John Powell & Co., New York; H. F. Seeland, Stanco Inc., Elizabeth, N. J.; Harold Noble, S. B. Penick & Co., New York; H. R. King, R. J. Prentiss & Co., New York; and R. B. Stoddard, Dodge & Olcott, New York. Harold Noble, head of the insecticide division of S. B. Penick & Co., New York, was elected chairman of the group, which it is expected will speedily take up the question of a price adjustment to relieve the squeeze on the primary producers of the flowers due to necessarily higher flower prices about to go into effect.

American Chemical Co. Moves

American Chemical Co., formerly of 619 Poydras St., recently moved to 333 Decatur St., New Orleans 16. The company manufactures sanitary specialties, disinfectants, etc.

Name Rotenone Advisory Group

Formation of a Rotenone Processors Industry Advisory Committee to take up questions relating to manufacturing and wholesale prices of all rotenone products from the imported root to finished insecticide stage was announced last month by OPA. Committee members include: J. L. Batty, Cooperative GLF Soil Building Service, Inc., New York; William J. Haude, John Powell & Co., New York; H. R. King, R. J. Prentiss & Co., New York; Miss E. M. Pagel, Agicide Laboratories, Inc., Racine, Wis.; Roy E. Miller, Miller Products Co., Portland, Ore.; D. B. Faloon, Hammond Paint & Chemical Co., Beacon, N. Y.; Robert Joyce, Derris, Inc., New York; Harold Noble, S. B. Penick & Co., New York, and R. B. Stoddard, Dodge & Olcott Co., New York.

Fred Theile Recovering

Fred C. Theile, president of P. R. Dreyer Inc., essential oil and aromatic chemical firm, New York, is still convalescing from an illness which has kept him away from his desk for the past seven months.

Glass Association Report

The Glass Container Association announced Mar. 14, that the glass container industry had shipped 94,540,000 gross, or more than 13,000,000,000 containers in 1943, representing a constant increase to take care of wartime needs. Total shipments, domestic and foreign, last year the story stated, represented nearly 94 glass containers each for every man, woman and child in America.

N. A. I. D. M. TO HEAR DR. LOUIS SCHWARTZ

DR. LOUIS SCHWARTZ of the United States Public Health Service and well-known arch-enemy of industrial dermatitis will speak on this subject before the 30th mid-year meeting of the National Association of Insecticide & Disinfectant Manufacturers at the Edgewater Beach Hotel, Chicago, June 12-13. Other added features to the program, according to John Powell, chairman, will include speakers on industrial dishwashing sanitation, and the relationship between insecticides and insect-borne epidemic diseases in the post-war period. The complete program for the June meeting will be announced about May first.

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Sanitary Supply Assn. Meets Apr. 23-26

ALTHOUGH one full session is to be devoted to discussions of post-war planning, present government war time regulations affecting the sanitary supply industry will be given prominent place on the program of the 22nd annual convention of the National Sanitary Supply Association, meeting at the Morrison Hotel, Chicago, April 23 to 26, according to Marshall L. Magee, of T. F. Washburn Co., Chicago, president of the association. Sunday afternoon and morning, April 23 and 24, have been allotted to distributors and manufacturers who will have their displays set up in the Morrison Hotel's Mural room. Advance reservations indicate that about forty exhibitors will be on hand, Mr. Magee said.

Following addresses by the president, secretary and treasurer of the association on Monday afternoon, at which time the convention officially convenes, the post-war planning session will be held. Among the speakers scheduled for this session are Carlyle Emery, vice-president of Ruthrauff & Ryan advertising agency, whose talk will be along inspirational lines; Harry J. Voelker, of Kranz Co., Racine, talks on "Building A Cost System"; Lyle C. Palmer, maintenance manager, Kingsbury Ordnance Plant, LaPorte, Ind., "Your Customer's Viewpoint"; Ludwig Wilson; Jay H. Zucker; Philip L. Gilmore; Jules Lovinger; Vern Haag; Louis Herzog; Charles Buschart; Tom Opie; David Kreekum and Harry Toplitzky who will discuss various phases of marketing sanitary supplies, both present and future.

On Tuesday, April 25, C. W. Lentz, Chief of Soap and Glycerin division, Fats and Oils Branch, War Food Administration, will speak on government regulations affecting fats and oils, which will be followed by a question and answer period. Lee R. McCullough, Chicago Regional Priorities Manager of the War Pro-

duction Board, speaks at the same session on regulations affecting priorities, with special emphasis on CMP-5 and CMP-5a and the differences between MRO-PD-3a and PD-1a ratings. Mr. McCullough's talk will also be followed by a question and answer period. On Tuesday night the annual banquet will be held in the Mural Room with Tom Opie as toastmaster and an address by Dr. Preston Bradley, Chicago clergyman.

WAX SUPPLIES *(From Page 113)*

absence of these former staples, the strain on carnauba and beeswax supplies has simply been too much for the sources and the shipping facilities to stand.

There has been the further factor of an unfavorable price situation to contend with on beeswax, which has contributed seriously to the present shortage. In pre-war days much of the wax for the American market came from the port of Benguella in Angola, West Africa. The OPA has set a price of 31 $\frac{1}{4}$ c per pound, f.o.b. Lobito, as the maximum which importers may pay, and they are simply unable to interest African exporters at this figure. A different selling price schedule of 44 $\frac{3}{4}$ c per pound, f.o.b. port of entry, applies on shipments from Brazil, Chile, the Carribbeans, and other South American sources, from which we have obtained some supplies. The difficulty on such transactions, however, is that there is not sufficient beeswax obtainable that can be imported at a price low enough to sell at this figure. The importers simply find in too many cases that it is unprofitable to import and resell at the OPA ceilings. Domestic production continues to supply some of our needs, but never has been of sufficient size to take care of more than a portion of our requirements.

On ouricury wax a more optimistic picture can be painted. Little known in the American market before

1940, it has been coming in at a steadily increasing rate since that time. The tonnage of imports is still far under carnauba figures, but receipts have been ample to take care of the demand up to this point. Ouricury wax is finding fairly substantial use in shoe polishes and carbon paper, although for floor wax use its lack of uniformity and poor color are against it. One of the factors in its better supply position is that it is shipped from Bahia, which has enjoyed more regular steamer service than the principal ports for carnauba shipments. Perhaps additional quantities of the refined grades of ouricury might be used in floor wax, but here again OPA price controls have had an unfavorable effect. Imports of crude ouricury stand the importer about 49c per pound, c.i.f. New York, to which must be added the usual importation costs, cash discount to buyer, etc. There is an inevitable shortage between shipped and delivered weights which the importer must absorb and he also faces a refining loss which may run all the way from 12 to 22 per cent. Considering that the OPA ceiling price on refined ouricury is currently 62c per pound, it is doubtful if the average refiner can show a profit on any wax on which his refining loss runs over 14 or 15 per cent.

Completing the picture of available wax raw materials and adding one more to the small list of materials which are currently available in ample supply is candelilla wax. With its main source in Mexico and to a small extent from Texas, deliveries have been plentiful. It is currently selling at 34c to 36c per pound but, even at this level, well below carnauba prices, wax buyers seem to consider it overpriced. Candelilla has the distinction, incidentally, of being the only imported wax selling below its ceiling level, which is two to four cents per pound higher than the current market quotation. We have an idea, however, that even if it were priced still lower, floor wax manufacturers would prefer carnauba wax even at a dollar a pound. Future stocks of carnauba, however, as we have indicated above, still remain primarily a shipping problem.

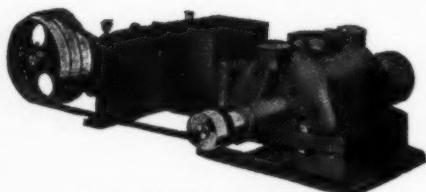
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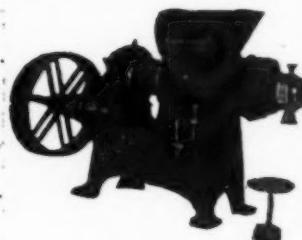
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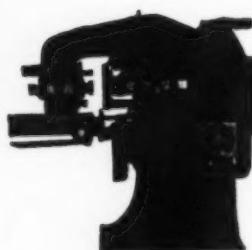
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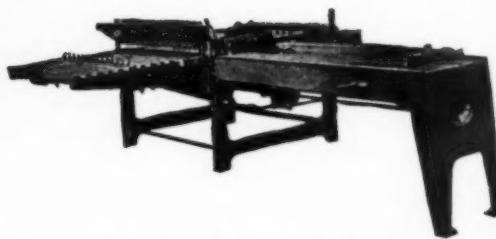
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Sales Executive, 38, sixteen years promotion experience, education and following in institutional trade, will buy established soap, disinfectant or allied business or will invest as partner. Address Box No. 695, care *Soap & Sanitary Chemicals*.

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Insecticide Business: Wanted to purchase for cash small going firm manufacturing insecticides, disinfectants, and allied products sold in farm and rural areas. Small organization with established brands and equipped factory preferred. Send details in confidence to Box No. 667, care *Soap & Sanitary Chemicals*.

Will Purchase Immediately — Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 679, care *Soap & Sanitary Chemicals*.

Canadian PCO's Meet

The Second Annual Canadian Pest Control Operators' Conference, sponsored by the University of Montreal, in cooperation with the Canadian Pest Control Operators Association, was held at the University of Montreal, Feb. 21-23. The conference was followed by the annual business session at which P. W. McLeod, Vancouver, B. C., was elected president, and other officers for 1944-45 were chosen. A special meeting to study the possibility of fumigating box-cars under low temperature conditions followed the business session.

Hercules Powder Raises Georgi

Hercules Powder Co., Wilmington, Del., recently named Edmund A. Georgi manager of technical development in the Paper Makers Chemical department of the company, with which he has been associated since he was graduated from Cornell University in 1918.

Fire Extinguisher Group Elects

The Chemical Fire Extinguisher Association, at its annual meeting held March 3, at the Hotel Sherman in Chicago, elected the following officers: president, Arthur G. Sullivan, Buffalo Fire Appliance Corp.; vice-president, J. O. Binford, American-La France-Foamite Corp., Elmira, N. Y.; treasurer, Herman W. Diener, George W. Diener Manufacturing Co., Chicago; and commissioner, W. J. Parker, W. J. Parker, Inc., New York. Newly elected directors included: George H. Boucher,

Pyrene Manufacturing Co., Newark, N. J. and E. A. Warren, General Detroit Corp., Detroit.

American Home Earnings at Peak

A new high of \$4,896,244, equal to \$5.30 a share, was the reported 1943 net profit of American Home Products Corp., New York, it was made known early last month. This 14 per cent increase in net over that of 1942 reflects the 41 per cent gain in gross sales recorded in 1943 as compared with 1942. The gross sales amounted to \$89,743,662 as compared with \$63,633,139 recorded in 1942. Federal and foreign income and excess profits taxes aggregated \$8,306,348 or 45 per cent more than the year before.

Offer New Lethane Powder

A new member of the "Lethane" family, "Lethane B 71" has recently been introduced by Rohm & Haas Co., Philadelphia, for agricultural insecticide use as a replacement for pyrethrum, rotenone and nicotine. It consists of 13.5 per cent of beta beta' dithiocyanato diethyl ether impregnated on a mixture of magnesium carbonate and a finely divided talc. The new dust is said to have demonstrated excellent killing power in controlling leafhoppers and aphids on truck crops. It was subjected to tests by vegetable growers and state experiment stations for a period of three years before being offered commercially.

Another concentrate "Lethane 60," a liquid, was introduced by Rohm & Haas during the 1943 season, and has proved exceptionally useful as a rotenone extender in truck crop dusts. It has found wide use in combination with other insecticidal materials such as arsenicals, sulfur, nicotine, copper, the botanicals and oils, exhibiting powerful contact action against aphids, leafhoppers, thrips, spiders, crawling young of scale and similar pests.

These new agricultural insecticides and other products in the list of Rohm & Haas insecticidal specialties were discussed before a recent meeting in Washington of the War Food Administration by Dr. Murphy of Rohm & Haas.



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Saran is a tough thermoplastic originally made to replace such strategic war materials as aluminum, stainless steel, nickel, copper, brass, tin and rubber. Now found adaptable to a wide range of uses in product designing, food processing and wherever non-corrosive materials are necessary. Its insulating qualities, flexibility and ease of handling make it extremely valuable in installations dealing with oils, gases, air, water and corrosive chemicals. It is available in tube, pipe, sheet, rod and molded fittings.

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A "Must" for Floor Maintenance
BRAID-O-PAD has steel wool strands running in all directions, and these strands are continually presenting fresh cutting surfaces. During the entire life of this pad, there is no loss of efficiency. This is because the pad retains its original shape and the braided strands of steel wool remain in the same relation to each other at all times during its use.



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ROtenone goes to WAR!

Recognizing its strategic value in the control of certain insects and pests, the use of Rotenone has been restricted to the needs of the Armed Forces, the protection of a limited number of vital agricultural crops, and the control of warble fly on cattle.

Many peace-time users of Rotenone for other purposes have had to readjust their plans to get along without Rotenone, and have done this willingly, appreciating that Rotenone has an important job to do in the winning of the war.

Those who need Rotenone for the specific purposes for which it is now reserved will be glad to know that we have still available supplies of ROTENONE and ROTENONE RESINS and from time to time expect to have ROTENONE POWDERS.

DERRIS, INC.

Specialists In Rotenone Roots and Rotenone Products

79 WALL STREET

NEW YORK, N. Y.

2 Profit-makers for Sanitary Supply Houses—

PER-MO RAT and MICE EXTERMINATING "LIQUID"

This tested exterminator is fatal to rodents. Can be used in liquid form or on baits. Keep it in stock and sell it to your regular customers with other sanitary supplies. "Per-Mo" is a profitable item!

PER-MO MOTHPROOFING LIQUID

Let your customers do their own mothproofing with "Per-Mo." The Guaranteed Mothproof Liquid. It acts like a colorless dye in impregnating fabrics, has no odor and will not spot or stain. Literature and Full Particulars first letter.

PER-MO MOTHPROOF CO.

3729 S. VIRGINIA AVENUE
KANSAS CITY 3, MO.

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.



"Maybe yo' multiplied by de wrong number in figurin' out dem post-war plans, Cuthbert!"

Excess stocks . . .

NOT today . . . but, maybe a headache tomorrow! The time will come when large stocks and heavy production will have to be sold . . . when today's biggest buyer, Uncle Sam, will be out of the market . . . when competition will again be a stern reality . . . and when advertising which you do now will make the going a lot easier for your sales staff then . . . help prevent accumulation of excess stocks . . . if your post-war plans include selling a larger tonnage of material in the field of soaps and detergents, insecticides, disinfectants, and chemical and sanitary specialties, we suggest regular advertising now in

SOAP and Sanitary Chemicals

254 WEST 31st STREET

NEW YORK 1

Member Audit Bureau of Circulations

Tale Ends

QUESTION of the month. . . where is all the lard going to be stored? Lard, lard, lard. . . and storage facilities are about taxed to the limit now. . . lard, lard, lard. . . much of it awaiting shipment on lend-lease to Russia. . . to Russia who should be the largest producer of vegetable oil crops in the world. . . and American soapers can wait to get their lard quotas while the warehouses bulge with lend-lease stocks which may not be shipped for months. C'est la guerre,—or that's what they tell us.

* * *

The latest in soap substitutes is reported from Japan via the Domei news agency and is said to be the invention of four sixth-grade school children of Nippon. It is composed of corbicula, the pollen basket of a bee, egg shells, orange juice, ash, and waste water from cleaning rice. The report says to stir while boiling, "and no fair eating." A novel formula to say the least, and well worthy of its inventors! However, these Jap kids are young. They will learn soon from their fathers that the Jap way is to let the other fellow invent things and then imitate them on a cheap scale.

* * *

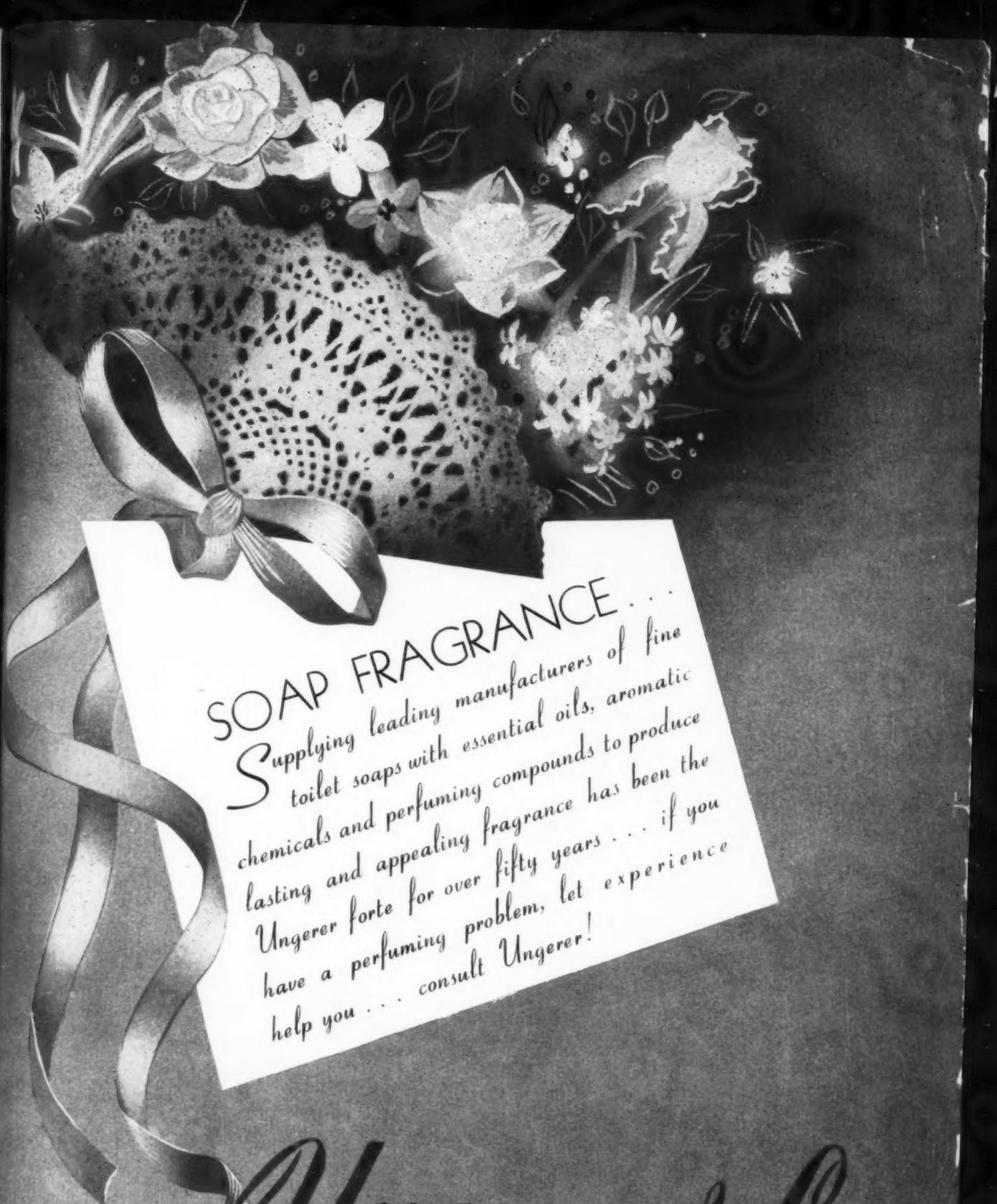
D.D.T., the chemical insecticide material, for which great things have been predicted in the post-war markets, is stated to be the single greatest weapon in the war on typhus in Naples, Italy, according to news releases from Army medics. Its main use by the Army is in louse powder.

* * *

Suggested racket. . . buy cheap lard, turn it in to your local butcher at five cents and two ration points per pound, and buy roast beef with the points. But maybe, it's illegal.

* * *

New . . . Oregon Insecticide Law will be amended in January, 1945. In meantime, formula disclosure on labels by insect spray manufacturers suspended for 1944 in Oregon. . . but formula must be filed with state officials . . . a practical and sensible solution of a nasty problem aggravated by present raw material situation.



Ungerer & Co.

161 SIXTH AVE., NEW YORK

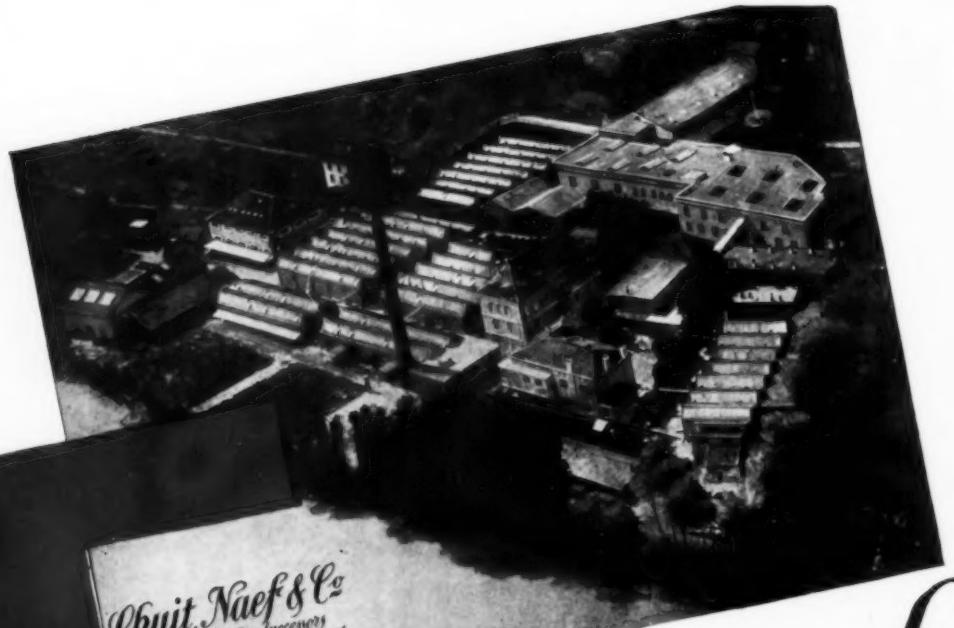
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Firmenich & Co., Successors
Synthetic and Aromatic Chemicals
Geneva

Forty Eight Years *a Leader*

For more than forty-eight years the name of Chuit, Naef has been synonymous with the production of the highest quality group of synthetic and aromatic chemicals obtainable. Today, as then, this reputation continues unmatched. ✓ ✓ Throughout these years the Chuit, Naef organization has expanded its products to the point where they now rank as the most complete line of perfume raw materials available to the toilet goods, perfume extract and soap fields. ✓ ✓ As sole United States agents, let us convince you of the remarkable adaptability of our products to your line — and our ability to deliver!

Firmenich & Co.
135 FIFTH AVENUE, NEW YORK, N. Y.
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